

NATURAL RESOURCES AND CONSERVATION



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FINAL ENVIRONMENTAL ASSESSMENT

Project Name:	Madison County Fairgrounds Sewer Main Extension Improvements
Proposed Implementation Date:	May 2023
Proponent:	Madison County
Location:	45.543297, -112.332702
County:	Madison County

I. TYPE AND PURPOSE OF ACTION

The purpose of the project is to protect public health and safety for users of the Madison County Fairgrounds (Site). The project includes improvements and modifications to the Site sewer line to allow fairground activities year-round. The fairgrounds and project site are located directly west of the Town of Twin Bridges (Town), as detailed in the 2018 Preliminary Engineering Report (PER) to Expand Twin Bridges' Water and Wastewater Services to West of the Beaverhead River, which assessed methods to provide year-round water and sewer services to the site. The information provided in the 2018 PER was supplemented with an October 2022 Technical Memorandum for the Madison County Fairgrounds Sewer Main Extension Improvements. Based on this memorandum, the water line was previously installed in 2018/2019 and the proposed project now includes installation of one sewer line, via horizontal direction drilling, to connect the Fairgrounds Facility to the existing Twin Bridges wastewater system.

The Site is located directly west of the Town across the Beaverhead River and is developed with the Twin Bridges Children's Center (closed in the 1970s), Madison County Fairgrounds, the Town's Rest Area, and a few intermixed residential lots.

The Site is served by the Twin Bridges' water and sewer lines crossing the Beaverhead River. In 2018/2019, a new water main was installed beneath the Beaverhead River via a horizontal directional drill to replace the failed water main, which had become exposed on the floor of the Beaverhead River and was unusable. The sewer line serving the Fairgrounds is attached to the Montana Highway 41 Bridge, while the water line crosses under the Beaverhead River near 2nd Avenue in Twin Bridges. Since the sewer line is attached to the Highway 41 Bridge, the Fairgrounds can only utilize the sewer during the warmer months (Mid-April – September) as the exposed sewer main is subject to freezing. The Fairgrounds sewer collection system consists of a gravity sewer main that collects sewer from the Fairground Facility's buildings and flows into a wet well that houses grinder pumps which pump sewage into a 2-inch force main that is attached to the bridge and connects to a manhole for the Twin Bridges sewer collection system on the west side of the Beaverhead River. The limited access to water resulted in prioritizing the water main improvements until the County had funding to complete the sewer main improvements for sanitary service at the Fairgrounds. The main deficiencies

associated with the County Fairgrounds sewer main and site sewer system are the location of the existing sewer main (force main) that is attached to the bridge, as it limits the facility's use during the colder months, as well as the grinder pumps and associated wet well at the Fairgrounds. There is also concern about inflow and infiltration (I&I) at the existing wet well for the grinder pump station.

The proposed project will install approximately 250 linear feet of horizontal directionally drilled 10" HDPE carrier pipe and 675 lineal feet of new 2-inch and 4-inch force main to connect to the Twin Bridges sewer collection system, new wet well and grinder pump station with an emergency backup generator, as well as replacing any leaking sewer services at the Fairgrounds facilities. See the attached proposed project figures. Appendix A includes maps depicting the proposed sewer line location. Madison County is the sponsor for the project.

The project is proposed to begin in May 2023, completed by July 2023, and closed out by September 2023. DNRC will approve the grant to provide funding through the American Rescue Plan Act (ARPA) for the Madison County Fairgrounds Sewer Main Extension Improvements project.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project. List number of individuals contacted, number of responses received, and newspapers in which notices were placed and for how long. Briefly summarize issues received from the public.

The project has been presented at Town meetings and made available for public comment including a public hearing that was held on November 5, 2018, and facilitated by the Town, Madison County, and Great West Engineering.

Great West Engineering has also contacted various agencies regarding the project including Montana Historical Society, Bureau of Land Management, State of Montana Building Codes Program, United States Department of the Interior Fish and Wildlife Service, the Montana Department of Natural Resources & Conservation, Madison County Planning Department, National Park Service, Department of the Army Corps of Engineers, Bureau of Indian Affairs, Montana Department of Environmental Quality, U.S. Environmental Protection Agency, Federal Aviation Administration, and Montana Department of Transportation.

DNRC will post a draft of this Environmental Assessment for public comment for 30 days on the DNRC – Public Notices webpage. For any comments submitted by the public, the MEPA Coordinator will review and work with the Grant Manager and applicant to adequately address those comments.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.

A Stream Protection Act (SPA) 124 permit will be necessary for each location to cross the river. Depending upon the final design, floodplain and wetland permits may be necessary. In addition to the permitting during design, construction permits will include a Stormwater Pollution

Prevention Plan (SWPPP) and Best Management Practice (BMP) plan, which will be the responsibility of the selected contractor to limit sediment infiltration to the river.

Stormwater Discharge General Permit – According to Montana State Stormwater Rules, a stormwater discharge permit is required for projects that have a total disturbance greater than 1 acre and that discharge into state waters.

SPA 124 – The Montana Stream Protection Act requires a permit for any project that may affect the bed or banks of any stream in Montana. The intake renovation and replacement will take place within the banks of the Beaverhead River. The SPA 124 permit applies to governmental entities and Districts and would be issued by Montana Department of Fish, Wildlife and Parks.

Madison County Floodplain Permit – Due to the proximity of work within the Federal Emergency Management Agency (FEMA) mapped floodplain, a floodplain permit must be obtained from Madison County.

USACE 404 – Section 404 of the Clean Water Act (CWA) establishes a program to regulate the discharge of dredged or fill material into waters of the United States. The Section 404 permit would be issued by the US Army Corps of Engineers.

318 Authorization – The Short-Term Water Quality Standard for Turbidity requires a permit for any construction activities that will cause temporary violations of state surface water quality standards for turbidity. Pipeline construction will occur beneath the riverbed, it is still necessary to minimize the potential to transport sediment or soils disturbed during construction to the river. There does exist the potential sedimentation to the river through construction activities, a permit application should be submitted for review and necessity. Determination of the need for a permit will be made by the Department of Environmental Quality (DEQ).

Additionally, based on reviewed correspondence between Great West Engineering and the Montana Department of Natural Resources & Conservation, the State of Montana owns the land under the riverbed and easements will need to be secured prior to any work that crosses the river.

3. ALTERNATIVE DEVELOPMENT:

Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why. Include the No Action alternative.

Alternative 1: No Action

The No Action alternative would leave the existing system in place and the Fairgrounds would continue to operate only during the warmer months.

Alternative 2: Rehabilitate Existing or Develop New Wastewater Treatment Facility

Alternative 2 would include constructing an independent wastewater collection and treatment system for the west side of the river. Previous analysis has shown that drainfield alternatives cannot be constructed in accordance with DEQ regulations due to extremely shallow groundwater. Based on the 2018 PER this alternative was not considered viable.

Alternative WW-1: Extend Sewer Line Beneath Beaverhead River to Fairgrounds Facility

In this alternative, per the 2018 PER, there are two separate sewer mains that cross the Beaverhead River. The Children's Center location is serviced on the north side by one lift station and force main that parallels the river before crossing the river at Ninth Avenue. The second service would be a smaller force main and river crossing to accommodate the Fairgrounds and Rest Area. Both the Fairgrounds and Rest Area already have grinder pumps that are sized adequately; thus, improvements would be limited to re-routing the existing forcemains to a new common forcemain to the south of Highway 41. Based on review of more recent application documents including a Technical Memorandum for the Madison County Fairgrounds Sewer Main Extension Improvements, dated October 18th, 2022, the current application is to only extend a single sewer connection for the Fairgrounds facility.

Selection of Preferred Alternative – Alternative WW-1: Extend Sewer Line Beneath Beaverhead River to Fairground Facility

After comparing the cost/benefit analysis, environmental impacts, and operational considerations, it was determined that Alternative WW-1, extension of the sewer line beneath the Beaverhead River, would best accomplish the project goals and objectives. In this alternative, approximately 250 linear feet of horizontal directionally drilled 10" HDPE carrier pipe and 675 lineal feet of new 2-inch and 4-inch force main will be installed to connect to the Twin Bridges sewer collection system, a new wet well and grinder pump station with an emergency backup generator will be installed as well as replacing any leaking sewer services at the Fairgrounds facilities.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify direct, indirect, and cumulative effects to soils.

The Site is located approximately 4,635 feet above sea level and the surface topography is relatively flat and gently sloping towards the Beaverhead River. The Natural Resources Conservation Service (NRCS) Web Soil Survey was utilized for soil classifications within the planning area. The main soils included Neen silty clay, 0 to 2 percent slopes and Chaffee, occasionally flooded-Beavrock, rarely flooded, Dillon families complex, 0 to 2 percent slopes. These soils are not considered prime farmland.

Proposed Alternative and No Action – There is no expected impact to site soils/geology as the construction of the sewer line extension will involve directional drilling and will not involve trenching. After project completion, disturbed Site soils will be restored to their preconstruction condition.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify direct, indirect, and cumulative effects to water resources.

Surface water within the planning area consists of the Beaverhead River. The primary surface water drainage within the planning area consists of the Beaverhead River watershed. The Beaverhead River supports a cold-water fishery. The Montana Department of Environmental Quality has established statewide water quality standards and classifications for surface waters according to their characteristics and uses. The river is classified as a B-1 stream. The river is also classified as an impaired stream according to the EPA.

The Montana Ground Water Information Center (GWIC) was used to retrieve information on groundwater wells in the area of the Site. Based on reviewed well logs, static water level is approximately 5 feet below ground surface (bgs).

The aquifer within the Site area consists of locally derived Tertiary- and Quaternary-aged valley fill. These deposits include alluvial fan material and younger fluvially re-worked river channel sands and gravels. The water supply for the town lies at approximately 165 to 240 feet bgs within unconsolidated and semi-consolidated gravel and sand alluvium.

The Town of Twin Bridges has two wells. Well 1 reportedly has a total depth of 195 feet, a static water level of 6 feet, a pump water level of 71 feet, and a yield of 1,000 gallons per minute (gpm). Well 2 reportedly has a total depth of 240 feet, a static water level of 4.5 feet, a pump water level of 67 feet, and a yield of 1,070 gpm.

Proposed Alternative – There is no expected impact to water quality, quantity, or distribution as the construction of the sewer line extension will involve directional drilling. The new wet well may need to be dewatered during construction and a SWPPP should be prepared. BMPs protective of surface water should be installed and maintained by the contractor as outlined in the SWPPP.

No Action – None.

6. AIR QUALITY:

What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.

The proposed project is not located in an air quality Attainment Area, as set by the U.S. Environmental Protection Agency's National Ambient Air Quality Standards. The project area is not listed as impaired in air quality particulates per the Montana DEQ Air Quality Nonattainment Status List (Montana DEQ Air Quality Website). No air pollution facilities are in or near the project area. No nonattainment areas exist in the vicinity of the project. Land use in the area of the Site includes residential and commercial.

Proposed Alternative – Potentially adverse, direct impacts to air quality as there may be some dust introduced into the environment during construction. The contractor will be required to provide dust control throughout construction to mitigate any dust and any impacts will be temporary.

No Action – No impact.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify direct, indirect, and cumulative effects to vegetation.

The project area is located primarily within a developed, residential and commercial area. Land cover includes developed open space, unconsolidated river shore, and medium intensity development. Terrestrial, avian, and aquatic life and habitats are consistent with those expected to be within a city. Records from the Montana Natural Heritage Program (MTNHP) indicate the project area is surrounded by private land, primarily within Human Land Use (53%), Wetland and Riparian Systems (30%), Grassland Systems (16%), and Recently Disturbed or Modified (2%; see MTNHP report at the end of this document to view other land cover types, or the MTNHP website). There are 38 plant Species of Concern listed for Madison County that may potentially occur within the project area (MTNHP website).

The project area is located within or near land classified as freshwater emergent wetland, freshwater forested/shrub wetland, freshwater pond, and riverine by the National Wetlands Inventory (map attached in the MTNHP species report). Vegetation along the project area is mostly grasses, sedges, and brush, with some trees in the project area. Most of the land identified as riverine exists at or adjacent to the eastern extent of the project area. No farmland or agricultural land exists in the project area. According to the FWS, no critical habitat exists within the project. Six mapped Wetland types are located within the project area. The USDA NRCS Web Soil Survey indicates that none of the soil in the project area is classified as soil of Statewide Importance.

Proposed Alternative & No Action – No impact as there is limited natural, undisturbed vegetation cover in the immediate project area. Additionally, drilling activities should not disturb naturally vegetated areas.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify direct, indirect, and cumulative effects to fish and wildlife.

Project location is not identified as a priority area for terrestrial or aquatic conservations efforts within the Montana State Wildlife Action Plan (SWAP). The project exists within Exempt Community Boundaries for Montana Sage Grouse habitat and does not fall within an Executive Order – General/Priority habitat area for sage grouse (see attached map; Montana Sage Grouse Habitat Conservation Plan web mapping tool). According to the FWS, no critical habitat exists within the project area. Riverine systems exist near the eastern extent of the project area. Though the project area does not appear to be impacting crucial and/or critical habitat areas, there are 138 Species of Concern (16 observed, 122 potential) listed for Madison County that may occur in the project area in a broad range of taxa, including bats, birds, reptiles, amphibians, fish, insects, and plants.

Proposed Alternative – Potentially direct and indirect, adverse, negligible to minor, short-term, local, non-recurring impacts to terrestrial, avian, and aquatic life and habitats. The construction may temporarily disturb animal life and habitats, although given the project area is largely comprised of developed residential and commercial areas these impacts are expected to be negligible to minor.

No Action – No impact.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify direct, indirect, and cumulative effects to these species and their habitat.

As mentioned in the previous section, there are 138 species of concern listed as using or potentially using the project area as viable habitat. Records from the MTNHP indicate the project area there are 16 species of concern in and around the project area including: Westslope Cutthroat Trout (*Oncorhynchus clarkii lewisi*), Bald Eagle (*Haliaeetus leucocephalus*), Evening Grosbeak (*Coccothraustes verspertinus*), Northern Leopard Frog (*Lithobates pipiens*), Great Blue Heron (*Ardea herodias*), Long-billed Curlew (*Numenius americanus*), Hooded Merganser (*Lophodytes cucullatus*), Barrow's Goldeneye (*Bucephala islandica*), American White Pelican (*Pelecanus erythrorhynchos*), Trumpeter Swan (*Cygnus buccinator*), Yellow-billed Cuckoo (*Coccyzus americanus*), Short-eared Owl (*Asio flammeus*), Clark's Nutcracker (*Nucifraga columbiana*), Arctic Gt. Graying (*Thymallus arcticus*), and Golden Eagle (*Aquila chrysaetos*; see MTNHP report attached). Important animal habitat includes non-cave bat roosts. MTNHP records indicate 138 other observed and potential animal and plant species of concern and potential species may exist in the area (see attached MTNHP report). DNRC also utilized the U.S. Fish & Wildlife Service's Information for Planning and Consultation (IPaC) online database to assess what federally listed species and their critical habitats exist within the project area. The IPaC listed four endangered or candidate species present within the project area, and three migratory bird species: Canada Lynx (*Lynx canadensis*), North American Wolverine (*Gulo gulo luscus*), Monarch Butterfly (*Danaus plexippus*), Ute Ladies'-tresses (*Spiranthes diluvialis*), Golden Eagle, Rufous Hummingbird (*Selasphorus rufus*), and Western Grebe (*Aechmophorus occidentalis*; see attached IPaC report. Date accessed: 05/01/2023). Three bird species are protected under the Migratory Bird Treaty Act, and the Bald and Golden Eagles are also protected under the Montana Bald Eagle Management Plan, Bald and Golden Eagle Protection Act, and Lacey Act.

The National Wetlands Inventory (NWI) website was used to determine whether any wetlands were present within the lands adjacent to the project location (map included at the end of this EA). This search indicated that 6 types of wetlands are present within and adjacent to the project area. There are two types of freshwater emergent wetland, one type of freshwater forested/shrub wetland, one type of freshwater pond habitats, and two riverine habitats. The Freshwater Emergent wetlands are seasonally flooded, contain vegetation for most of the year, and contain hydrophytic plants. The Freshwater Forested/Shrub Wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents, or emergent mosses or lichens. The Freshwater Ponds include deepwater habitats where vegetation grows principally on or below the surface of the water. The Riverine habitats are generally deepwater habitats contained within a channel, permanently flooded, with intermittent and seasonally flooded channels.

Floodplains

The project area is located within Zone A flood zone, with the wet well located outside of the flood zone. Zone A areas are defined as areas that are at high risk for flooding and a high chance of experiencing a 100-year flood. A floodplain permit will be necessary for any work completed within the floodplain.

Proposed Alternative – Potentially direct, negligible, short-term, local, non-recurring impacts to unique, endangered, fragile or limited environmental resources. The developed land does not provide habitat to any known species of concern, the minimal disturbance caused by horizontal drillings should not impact flood zone areas, wetlands, or sensitive habitats. The wet well will be installed in areas previously developed. BMPs will be implemented to control sediment and erosion during the project.

No Action – No impact.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine direct, indirect, and cumulative effects to historical, archaeological or paleontological resources.

The project proponent has not implemented a cultural survey; however, they did reach out to the Montana State Historic Preservation Office (SHPO). SHPO indicated, “there were no listed cultural records for the project area, but there have been other cultural surveys completed for the greater area”. SHPO indicated as long as no disturbance or alteration to structures over fifty years of age occurs, they feel that there is low likelihood cultural properties will be impacted.

Proposed Alternative – No cultural or historical resource impacts are anticipated. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

No Action – No impact.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify direct, indirect, and cumulative effects to aesthetics.

The Site area is comprised of residential and commercial development with minimal topography.

Proposed Alternative – Potentially adverse, cumulative impacts include limited construction equipment at the Site from May 2023 through July 2023. The equipment may have a minor negative effect on visual quality. Overall, the proposed construction during this project is not anticipated to affect the visual quality because the site will be restored by the end of the project. The noise above the area’s typical level will most likely be produced during construction. To minimize the impact of this disturbance, the contractor will only work within the hours of 7 AM to 7 PM. The increased noise will only be temporary and a minor disturbance. The proposed project equipment could also produce exhaust fumes which would be temporary.

No Action – None.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify direct, indirect, and cumulative effects to environmental resources.

The proposed project would include 250 feet of 10" HDPE carrier pipe, 675 feet of 2-inch and 4-inch force main, new wet well, grinder pump station, and emergency backup generator.

Proposed Alternative & No Action – No impacts on demands of various environmental resources.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

The consultant has provided a completed DNRC Environmental Checklist and Agency Comment letters.

Great West Engineering. 2018 Preliminary Engineering Report. Expand Twin Bridges' Water & Wastewater Services to West of the Beaverhead River.

Great West Engineering. 2020 Technical Memorandum. Madison County Fairgrounds Sewer Main Extension Improvements.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
 - *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
 - *Enter "NONE" If no impacts are identified or the resource is not present.*
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14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

Twin Bridges is a primarily residential and commercial area and contains powerlines and other potentially hazardous utilities. There are no known regulated underground storage tanks or other hazardous materials/sources within the project area.

Proposed Alternative – Potentially direct adverse impact as heavy equipment would be used during construction of the proposed wet well and horizontal drilling. Operation of heavy equipment poses a potential threat to public safety. There should be no impact during construction, but the typical risk to the public's safety is slightly increased only during construction. The proposed construction of a replacement wet well does not conflict with any known utilities. Construction will not be completed within the minimum offset for existing utilities, so no impact is expected.

No Action – Potentially direct adverse impacts if the sewer line which crosses the bridge for US Highway 41 failed and discharged to the Beaverhead River. None.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

There are no agricultural lands, industrial facilities, or residences within the project area. Outside the project area land is used for commercial and residential purposes.

Proposed Alternative – Potentially no impact as one commercial property is part of the project area. However, construction activities will be at the rear of the property and should not affect business.

No Action – Potentially adverse as no action will affect the Fairgrounds as the area can only be used during the summer months due to freezing issues with the sewer line during the winter months.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify direct, indirect, and cumulative effects to the employment market.

The project area consists of primarily private residences, commercial areas, and the Fairgrounds. In 2015, the median income was \$38,500.

Proposed Alternative – Potentially beneficial as the construction of the proposed sewer line may bring local job opportunities that were not previously present. The project will produce additional jobs and income during winter months at the Fairgrounds which otherwise would not be operating. The campground could operate year-round, which would also bring additional tourism and revenue.

No Action – No impact.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify direct, indirect, and cumulative effects to taxes and revenue.

The proposed project would allow the Fairground facilities to be utilized year-round, which would increase the number of events and tax revenue. The total amount would be dependent on the number of events and attendance.

Proposed Alternative – Potentially beneficial as the proposed project should increase local and state tax base and tax revenue for the town.

No Action – No impact.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify direct, indirect, and cumulative effects of this and other projects on government services

The project area contains mostly private residences and commercial areas. The only transportation network present in the project area are the local roads which connect residences, commercial areas, and the Fairgrounds. US Highway 41 is located to the north of the site and US 287 is located to the east of the project area.

Proposed Alternative – Potentially adverse as the proposed project may increase traffic and the need for fire and police personnel during the winter months. However, due to the population of the town and surrounding areas, the increase would be minimal. The proposed project will not occur in conflict with any of the local roads and will not need traffic control.

No Action – No impact.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Based on review of provided PER and Technical Memorandum no Federal, State, or Local agency management of zoning plans impact the project area.

Proposed Alternative & No Action – No impact.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify direct, indirect, and cumulative effects to recreational and wilderness activities.

The Fairgrounds and walking/biking path are located within the project area.

Proposed Alternative – Potentially adverse, direct impacts as access to the Fairgrounds and walking/biking path may potentially be limited during construction. Fairgrounds could utilize portable facilities to handle sewage for summer events.

No Action – No impact.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify direct, indirect, and cumulative effects to population and housing.

Properties near the project area have already been developed with primarily single-family homes and some commercial areas.

Proposed Alternative & No Action – Potentially no impact as the proposed replacement of the sewer line is not expected to cause any changes in population demographics or housing conditions as it is only servicing the Fairgrounds.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

Social conduct, structures, and behaviors follow conventions that are typical of Madison County.

Proposed Alternative – Potentially beneficial as the proposed project would allow events to be held at the Fairgrounds during the winter months which would impact the lifestyle of the community and bring more events to the area.

No Action – No impact.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

There are no unique facilities of unique culture or diversity in the project area.

Proposed Alternative & No Action – The proposed project is not expected to affect any cultural facilities.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.

The median household income in Twin Bridges was \$38,500 in 2015.

Proposed Alternative – Potentially beneficial as the proposed project would allow Fairground activities and events during the winter months which would bring additional income, jobs, and tax revenue to the town.

No Action – No impact.

25. DRINKING WATER AND/OR CLEAN WATER

Identify potential impacts to water and/or sewer infrastructure (e.g., community water supply, stormwater, sewage system, solid waste management) and identify direct, indirect, and cumulative effects likely to occur as a result of the proposed action.

Sewer/Sanitation

The Twin Bridges existing sewer system to the Fairgrounds utilizes a grinder pump system with a main that crosses the Beaverhead River via the Highway 41 bridge.

Drinking Water/Fire Flows

The Fairgrounds utilize public water which was installed beneath the Beaverhead River in 2018/2019.

Proposed Alternative – Potentially adverse, direct, minor to negligible as the new sewer line and winter month usage may put additional strain on wastewater treatment system.

No Action – No expected impacts to the public water supply or wastewater system.

26. ENVIRONMENTAL JUSTICE

Will the proposed project result in disproportionately high or adverse human health or environmental effects on minority or low-income populations per the Environmental Justice Executive Order 12898? Identify potential impacts to and identify direct, indirect, and cumulative effects likely to occur as a result of the proposed action.

The Fairgrounds is utilized by the Town of Twin Bridges and surrounding areas.

Proposed Alternative & No Action – Potentially no impact as the proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations. The economic impact will ultimately affect all users of the Fairgrounds.

EA Prepared By:	Name: Samantha Treu Title: MEPA Coordinator	Date: 05/01/2023 Email: samantha.treu@mt.gov
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V. FINDING

27. ALTERNATIVE SELECTED:

Alternative WW-1: Extend Sewer Line Beneath Beaverhead River to Fairgrounds Facility

In this alternative, approximately 250 linear feet of horizontal directionally drilled 10" HDPE carrier pipe and 675 lineal feet of new 2-inch and 4-inch force main will be installed to connect to the Twin Bridges sewer collection system, a new wet well and grinder pump station with an emergency backup generator will be installed as well as replacing any leaking sewer services at the Fairgrounds facilities.

28. SIGNIFICANCE OF POTENTIAL IMPACTS:

Finding of No SIGNIFICANT ADVERSE Impacts.

Air Quality

Potentially adverse, direct and indirect, negligible to minor, short-term, local, non-recurring impacts to air quality due to dust created during construction. Impacts would be limited to three-month construction period. Dust control should be implemented.

Aesthetic

Potentially adverse, direct, negligible to minor, short-term, local, non-recurring impacts to aesthetics due to construction equipment. Impacts will be temporary and limited to three-month construction period.

Stormwater

Little to no impact during construction. A SWPPP should be prepared and implemented. BMPs protective of surface water should be installed and maintained by the contractor as outlined in the SWPPP.

Floodplains and Wetlands

Minimal to no impact expected. Directional drilling should not impact wetlands or floodplain areas. Excavation for the wet well will be outside of wetlands and floodplains. BMPs should be implemented during construction to limit sedimentation and erosion. All areas should be returned to preexisting conditions subsequent to construction activities. Disturbance of vegetated areas should be limited.

Demand for Government Services

Potentially adverse, long-term impacts as additional police and fire protection due to events held at Fairgrounds during winter months.

Human Health and Safety

Potentially adverse, temporary direct impacts due to construction activities and equipment. Construction areas should be kept clear of pedestrians to limit injury. Fencing should be installed by the contractor during the construction period to be protective of human health.

Access to Quality of Recreational and Wilderness Activities

Potentially adverse, temporary direct impacts due to limited access to Fairgrounds and walking/biking path may be limited during construction. Construction areas should be kept clear of pedestrians to limit injury. Fencing should be installed by the contractor during the construction period to be protective of human health.

29. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

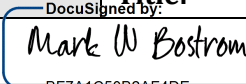
No impacts appear to require a mitigated EA or EIS.

This is the final environmental review.

☐ EIS

☐ More Detailed EA

☒ No Further Analysis

EA Approved By:	Name: Mark W Bostrom	
	Title: Division Administrator	
Signature:	 <small>DocuSigned by: B77A1C58B2AF4DE...</small>	Date: 6/5/2023 2:47:56 PM MDT



MONTANA Natural Heritage Program

1515 East 6th Avenue
Helena, MT 59620
(406) 444-5363
mtnhp.org



Latitude	Longitude
45.52617	-112.31532
45.55951	-112.35923

Summarized by:
Madison County Twin Bridges
(Custom Area of Interest)



Suggested Citation

Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 45.52617 to 45.55951 and Longitude -112.31532 to -112.35923. Retrieved on 5/1/2023.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of NatureServe, a network of over 80 similar programs in states, provinces, and nations throughout the Western Hemisphere, working to provide current and comprehensive distribution and status information on species and biological communities.



Environmental Summary

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Introduction to Environmental Summary Report

Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the [Montana Department of Environmental Quality](#), the [Montana Department of Natural Resources and Conservation](#), the [Index of Environmental Permits for Montana](#) and our [Suggested Contacts for Natural Resource Management Agencies](#). The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across the western United States (e.g., Western Association of Fish and Wildlife Agencies - [Crucial Habitat Assessment Tool](#)).

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**



Natural Heritage Program

A program of the Montana State Library's
Natural Resource Information System

Model Icons

- Suitable (native range)
- Optimal Suitability
- Moderate Suitability
- Low Suitability
- Suitable (introduced range)

Habitat Icons

- Common
- Occasional

Range Icons

- Native / Year-round
- Summer
- Winter
- Migratory
- Non-native
- Historical

Num Obs
Count of obs with
'good precision'
(≤1000m)
+ indicates
additional 'poor
precision' obs
(1001m-
10,000m)



Latitude
45.52617
45.55951

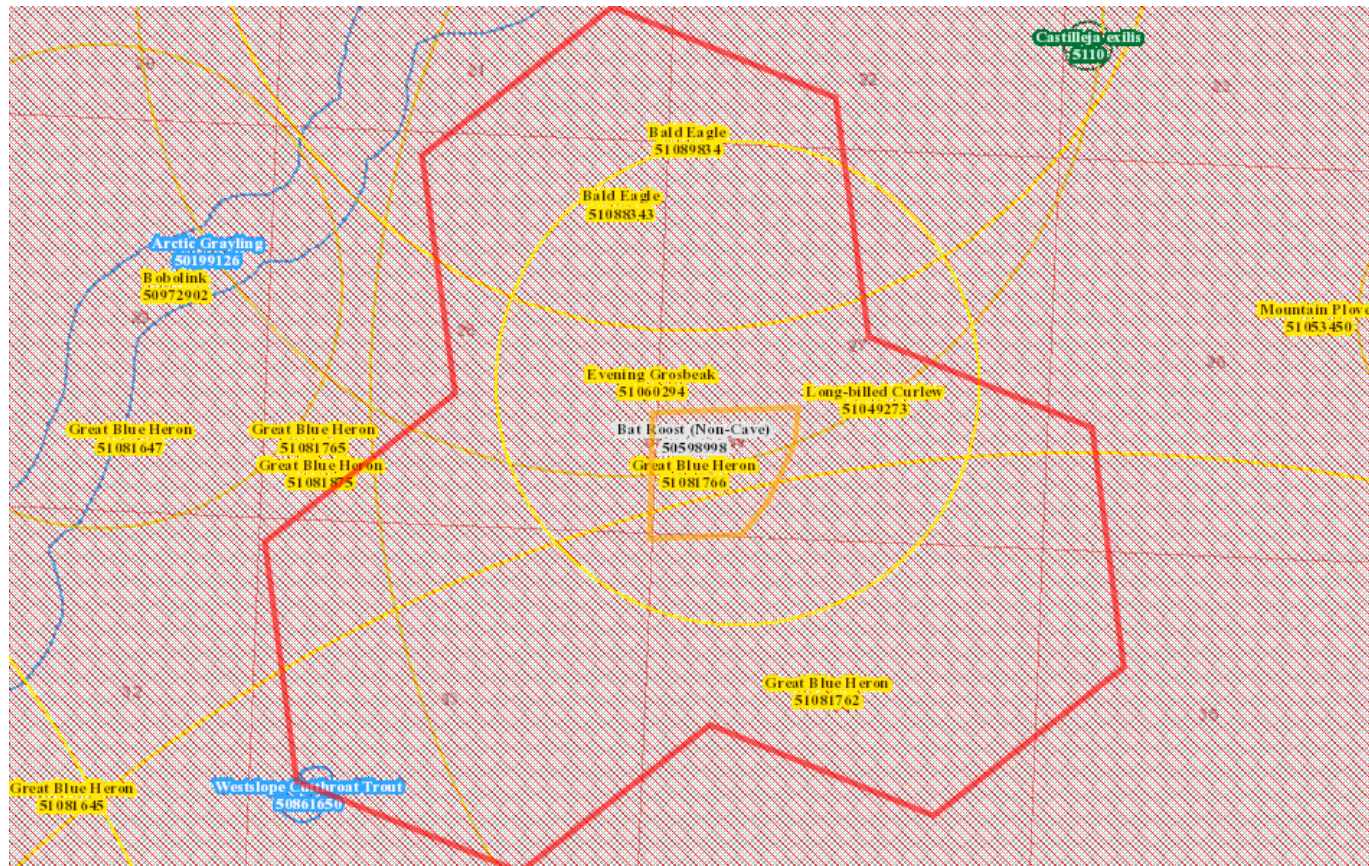
Longitude
-112.31532
-112.35923

Native Species

Summarized by: **Madison County Twin Bridges** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
F - Westslope Cutthroat Trout (<i>Oncorhynchus clarkii lewisii</i>) SOC		1			■
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: G5T4 State: S2 USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) Species of Conservation Concern in Forests (CG, HLC) BLM: SENSITIVE FWP SWAP: SGCN2 Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jul 25, 2022) Predicted Models: ■ 33% Suitable (native range) (deductive)					
B - Bald Eagle (<i>Haliaeetus leucocephalus</i>) SSS		2	1 +		■
View in Field Guide View Predicted Models View Range Maps Special Status Species - Native Species Global: G5 State: S4 USFWS: BGEPA; MBTA USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) BLM: SENSITIVE PIF: 2 Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for re-nesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Mar 23, 2023) Predicted Models: ■ 33% Optimal (inductive), ■ 67% Moderate (inductive)					
B - Great Blue Heron (<i>Ardea herodias</i>) SOC		5	4		■ ■ ■
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Mar 22, 2023) Predicted Models: ■ 33% Optimal (inductive), ■ 67% Moderate (inductive)					
B - Long-billed Curlew (<i>Numenius americanus</i>) SOC		1			■ ■
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC11 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 04, 2023) Predicted Models: ■ 100% Low (inductive)					

B - Evening Grosbeak

Coccothraustes vespertinus

SOC

DocuSign Envelope ID: 380ADAFc-ef52-4d6e-b877-b31dbf292b01

Species of Concern - Native Species

Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3

Delineation Criteria

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the maximum foraging distance from nests reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 12, 2023)

Predicted Models:

33% Low (inductive)

O - Bat Roost (Non-Cave)

Bat Roost (Non-Cave)

IAH

1

Not Assessed

View in Field Guide

Important Animal Habitat - Native Species

Global: GNR State: SNR

Delineation Criteria

Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsend's Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 22, 2019)



Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Y Native / Year-round	Count of obs with 'good precision' ($< 1000m$)
Optimal Suitability	Occasional	S Summer	
Moderate Suitability		W Winter	+ indicates additional 'poor precision' obs
Low Suitability		M Migratory	($1001m-100,000m$)
Suitable (introduced range)		N Non-native	
		Historical	



Latitude	Longitude
45.52617	-112.31532
45.55951	-112.35923

Native Species

Summarized by: **Madison County Twin Bridges** (*Custom Area of Interest*)


Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
<div> <div></div> <div> B - Hooded Merganser (<i>Lophodytes cucullatus</i>) PSOC </div> </div> <div> <div>1 +</div> <div><div></div></div> <div>Y M</div> </div>				
<div> View in Field Guide View Predicted Models View Range Maps </div> <div> Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 </div> <div> Predicted Models: <div></div> 67% Optimal (inductive), <div></div> 33% Moderate (inductive) </div>				
<div> <div></div> <div> B - Barrow's Goldeneye (<i>Bucephala islandica</i>) PSOC </div> </div> <div> <div>1</div> <div><div></div></div> <div>Y W M</div> </div>				
<div> View in Field Guide View Predicted Models View Range Maps </div> <div> Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 </div> <div> Predicted Models: <div></div> 100% Moderate (inductive) </div>				
<div> <div></div> <div> B - American White Pelican (<i>Pelecanus erythrorhynchos</i>) SOC </div> </div> <div> <div>5</div> <div><div></div></div> <div>S M</div> </div>				
<div> View in Field Guide View Predicted Models View Range Maps </div> <div> Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 </div> <div> Predicted Models: <div></div> 100% Moderate (inductive) </div>				
<div> <div></div> <div> B - Trumpeter Swan (<i>Cygnus buccinator</i>) SOC </div> </div> <div> <div>2</div> <div><div></div></div> <div>Y M</div> </div>				
<div> View in Field Guide View Predicted Models View Range Maps </div> <div> Species of Concern - Native Species Global: G4 State: S3 USFWS: MBTA USFS: Sensitive - Known in Forests (BD) BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 </div> <div> Predicted Models: <div></div> 33% Moderate (inductive), <div></div> 67% Low (inductive) </div>				
<div> <div></div> <div> A - Northern Leopard Frog (<i>Lithobates pipiens</i>) SOC </div> </div> <div> <div>+</div> <div><div></div></div> <div>Y</div> </div>				
<div> View in Field Guide View Predicted Models View Range Maps </div> <div> USFS: Sensitive - Known in Forests (KOOT) Global: G5 State: S1,S4 Sensitive - Suspected in Forests (BRT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN1 </div> <div> Predicted Models: <div></div> 67% Low (inductive) </div>				
<div> <div></div> <div> B - Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) SOC </div> </div> <div> <div>+</div> <div><div></div></div> <div>S M</div> </div>				
<div> View in Field Guide View Predicted Models View Range Maps </div> <div> Species of Concern - Native Species Global: G5 State: S3B USFWS: PS: LT; MBTA BLM: THREATENED FWP SWAP: SGCN3, SGIN PIF: 2 </div> <div> Predicted Models: <div></div> 33% Low (inductive) </div>				
<div> <div></div> <div> B - Short-eared Owl (<i>Asio flammeus</i>) PSOC </div> </div> <div> <div>+</div> <div>Not Assessed</div> <div>Y</div> </div>				
<div> View in Field Guide View Range Maps </div> <div> Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA; BCC11; BCC17 PIF: 3 </div>				
<div> <div></div> <div> B - Clark's Nutcracker (<i>Nucifraga columbiana</i>) SOC </div> </div> <div> <div>+</div> <div>Not Assessed</div> <div>Y</div> </div>				
<div> View in Field Guide View Range Maps </div> <div> Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA USFS: Species of Conservation Concern in Forests (FLAT) FWP SWAP: SGCN3 PIF: 3 </div>				
<div> <div></div> <div> B - Golden Eagle (<i>Aquila chrysaetos</i>) SOC </div> </div> <div> <div>2 +</div> <div>Not Assessed</div> <div>Y</div> </div>				
<div> View in Field Guide View Range Maps </div> <div> Species of Concern - Native Species Global: G5 State: S3 USFWS: BGEPA; MBTA BLM: SENSITIVE FWP SWAP: SGCN3 </div>				
<div> <div></div> <div> F - Arctic Grayling (<i>Thymallus arcticus</i>) SOC </div> </div> <div> <div>+</div> <div>Not Assessed</div> <div>Y N H</div> </div>				
<div> View in Field Guide View Range Maps </div> <div> Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: G5 State: S1 USFS: Sensitive - Known in Forests (BD) </div> <div> BLM: SENSITIVE FWP SWAP: SGCN1 </div>				

Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Native / Year-round	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Winter	
Low Suitability		Migratory	
Suitable (introduced range)		Non-native	
		Historical	

	Latitude	Longitude
	45.52617	-112.31532
	45.55951	-112.35923

Native Species

Summarized by: **Madison County Twin Bridges** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range
<div><div><div>F - Burbot (<i>Lota lota</i>)</div><div>PSOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Potential Species of Concern - Native Species</div><div>Global: G5 State: S4</div><div>Predicted Models: 100% Suitable (native range) (deductive)</div></div></div></div>			
<div><div><div>V - <i>Spiranthes diluvialis</i> (<i>Ute Ladies'-tresses</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G2G3 State: S1S2 USFWS: LT Plant Threat Score: High CCVI: Extremely Vulnerable</div><div>Predicted Models: 33% Optimal (inductive), 67% Moderate (inductive)</div></div></div></div>			
<div><div><div>B - Bobolink (<i>Dolichonyx oryzivorus</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 FWP SWAP: SGCN3 PIF: 3</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>M - Little Brown Myotis (<i>Myotis lucifugus</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G3G4 State: S3 FWP SWAP: SGCN3</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>M - Hoary Bat (<i>Lasiurus cinereus</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G3G4 State: S3B BLM: SENSITIVE FWP SWAP: SGCN3</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>M - Long-legged Myotis (<i>Myotis volans</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G4G5 State: S3</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>M - North American Porcupine (<i>Erethizon dorsatum</i>)</div><div>PSOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Potential Species of Concern - Native Species</div><div>Global: G5 State: S3S4 FWP SWAP: SGIN</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>V - Primula incana (<i>Mealy Primrose</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3 USFS: Sensitive - Known in Forests (BD) Plant Threat Score: High CCVI: Highly Vulnerable</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>B - White-faced Ibis (<i>Plegadis chihi</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>V - Atriplex truncata (<i>Wedge-leaf Saltbush</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3 Plant Threat Score: Unknown</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>V - Utricularia intermedia (<i>Flatleaf Bladderwort</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S2 USFS: Sensitive - Known in Forests (KOOT) Plant Threat Score: No Known Threats</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>I - Danaus plexippus (<i>Monarch</i>)</div><div>SOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G4 State: S2S3 USFWS: C</div><div>Predicted Models: 100% Moderate (inductive)</div></div></div></div>			
<div><div><div>B - Rufous Hummingbird (<i>Selasphorus rufus</i>)</div><div>PSOC</div></div><div><div><div><div>View in Field Guide</div><div>View Predicted Models</div><div>View Range Maps</div></div><div>Potential Species of Concern - Native Species</div><div>Global: G4 State: S4B USFWS: MBTA; BCC10 PIF: 3</div><div>Predicted Models: 67% Moderate (inductive), 33% Low (inductive)</div></div></div></div>			

Predicted Models: M 67% Moderate (inductive), L 33% Low (inductive)

A diagram of a 1D lattice with two sublattices, S and M. The lattice is represented by a horizontal line with vertical segments. The left half is labeled 'S' and the right half is labeled 'M'. The segments are colored: orange for S and yellow for M.

Predicted Models: M 67% Moderate (inductive), L 33% Low (inductive)

A 1D lattice with two sites, S and M, each containing a single electron.

Predicted Models: 67% Moderate (inductive), 33% Low (inductive)



Predicted Models: 67% Moderate (inductive), 33% Low (inductive)

A diagram of a chromosome with a centromere in the middle. To the left of the centromere is a single orange chromatid. To the right is a pair of sister chromatids, one orange and one yellow. A purple box containing the letter 'Y' is located on the yellow chromatid.

Predicted Models: 33% Moderate (inductive), 67% Low (inductive)

A diagram of a chromosome with a centromere in the middle. To the left of the centromere is a single orange chromatid. To the right is a pair of sister chromatids, one orange and one yellow. A purple box containing the letter 'Y' is located to the right of the yellow chromatid.

Predicted Models: 33% Moderate (inductive), 67% Low (inductive)

Predicted Models: M 33% Moderate (inductive), L 67% Low (inductive)

Predicted Models: M 33% Moderate (inductive), L 67% Low (inductive)

Predicted Models: M 33% Moderate (inductive). L 67% Low (inductive)

Diagram illustrating a chromosome with a centromere and two sister chromatids. The left chromatid is orange and the right is yellow. A purple box labeled 'Y' is on the right.

Predicted Models: M 33% Moderate (inductive), L 67% Low (inductive)

Diagram illustrating the relationship between the variables Y and Y .

Predicted Models: M 33% Moderate (inductive). L 67% Low (inductive)

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Predicted Models: 100% Low (inductive)

A simple circuit diagram showing a battery, a switch, and a light bulb connected in a loop. The switch is currently open, and the light bulb is not lit.

Predicted Models: L 100% Low (inductive)

[illegible]

Predicted Models: L 100% Low (inductive)

Page 10 of 10

Predicted Models: L 100% Low (inductive)

Page 10 of 10

Predicted Models: L 100% Low (inductive)

[illegible]

Predicted Models: 100% Low (inductive)

Y

[illegible]

B. Harlequin Duck (*Histrionicus histrionicus*)

	Y	Z	X
B. Black-billed Cuckoo	(C)	#	#

B. Means (2.4)

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[illegible][illegible]

A simple circuit diagram showing a battery, a switch, and a light bulb connected in a loop. The switch is currently open, and the light bulb is not lit.

B. Dilute-Monodisperse (D)

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Figure 1 | **Flowchart illustrating the study design.**

A diagram of a simple electrical circuit. It consists of a battery (represented by two cells), a switch, and a light bulb connected in a loop. The switch is currently open, and the light bulb is not glowing.

M. G. ...

A diagram showing a 2D grid with a yellow cell and a purple cell. The yellow cell is on the left and the purple cell is on the right. The purple cell contains a yellow 'Y' character. The grid is bounded by a green border.

B. *Mossia trimaculata* (Mossia Moss)




B. Long-headed Chalks (*Leucostictus*)

M. Batentilla platensis (Bl.) C. 6.111 333

A diagram showing a 2x2 grid. The left column contains a yellow cell on top and a grey cell on the bottom. The right column contains a grey cell on top and a grey cell on the bottom. To the right of the grid is a purple box containing the letter 'Y'.

[illegible]

M - Uinta Ground Squirrel (*Urocitellus armatus*) PSOC

B - American Bittern (*Botaurus lentiginosus*) **SOC**




I - Rhyacophila betteni (A Caddisfly) **SSS**




B - Thick-billed Longspur (*Rhynchophanes mccownii*) **SOC** Not Assessed S M

B - Green-tailed Towhee (*Pipilo chlorurus*) **SOC** Not Assessed **S** **M**

M - Grizzly Bear (*Ursus arctos*) **SOC** Not Assessed **Y** **H**

 B - Western Screech-Owl (<i>Megascops kennicottii</i>) PSOC	Not Assessed	
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<input type="checkbox"/> M - Idaho Pocket Gopher (<i>Thomomys idahoensis</i>) PSOC	Not Assessed	<input type="checkbox"/> Y
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<div> <div></div> <div>I - Euphydryas gillettii (<i>Gillette's Checkerspot</i>) SOC</div> </div>	Not Assessed	Y
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B - Great Gray Owl (<i>Strix nebulosa</i>) SOC	Not Assessed
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 M - Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>) SOC	Not Assessed	
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V - *Thalictrum alpinum* (Alpine Meadowrue) **SOC** Not Assessed **Y**

B - Franklin's Gull (*Leucophaeus pipixcan*) **SOC** Not Assessed S M

<input type="checkbox"/> M - North American Water Vole (<i>Microtus richardsoni</i>) PSOC	Not Assessed	<input type="checkbox"/> Y
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<div>  I - Aeshna constricta (<i>Lance-tipped Darner</i>) PSOC </div>	<div> Not Assessed  </div>
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I - Aeshna eremita (Lake Darner) PSOC	Not Assessed	Y
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M - Preble's Shrew (*Sorex preblei*) **SOC** Not Assessed **Y**

I - Argia vivida (*Vivid Dancer*) **PSOC**
Not Assessed

M - Wolverine (*Gulo gulo*) **SOC** 7 Not Assessed Y

I - *Colias gigantea* (Giant Sulphur) PSOC Not Assessed Y

I - Aeshna juncea (Sedge Darter) PSOC				Not Assessed	Y
DocuSign Envelope ID: 380ADAFc-ef52-4d6e-b877-b31dbf292b01					
Potential Species of Concern - Native Species Global: G5 State: S3S5					
I - Leucorrhinia borealis (Boreal Whiteface) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S1					
I - Sympetrum madidum (Red-veined Meadowhawk) PSOC				Not Assessed	Y
View in Field Guide View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S3					
B - Boreal Owl (Aegolius funereus) PSOC				Not Assessed	Y
View in Field Guide View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 USFWS: MBTA FWP SWAP: SGIN PIF: 3					
I - Aeshna sitchensis (Zigzag Darner) PSOC				Not Assessed	Y
View in Field Guide View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S3					
I - Boloria freija (Freija Fritillary) PSOC				Not Assessed	Y
View in Field Guide View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S5					
I - Boloria frigga (Frigga Fritillary) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S1S2					
I - Somatochlora semicircularis (Mountain Emerald) PSOC				Not Assessed	Y
View in Field Guide View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S5					
V - Braya humilis (Low Braya) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFS: Species of Conservation Concern in Forests (HLC) Plant Threat Score: Unknown CCVI: Highly Vulnerable					
V - Gentianopsis simplex (Hiker's Gentian) SOC				Not Assessed	Y
View in Field Guide View Range Maps USFS: Sensitive - Known in Forests (BD) Sensitive - Suspected in Forests (KOOT, LOLO) Species of Concern - Native Species Global: G5 State: S2 Species of Conservation Concern in Forests (CG) Plant Threat Score: Unknown CCVI: Extremely Vulnerable					
V - Hornungia procumbens (Hutchinsia) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S2 Plant Threat Score: No Known Threats CCVI: Highly Vulnerable					
V - Kobresia simpliciuscula (Simple Kobresia) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S3 Plant Threat Score: Unknown					
V - Mimulus primuloides (Primrose Monkeyflower) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G4 State: S3 USFS: Sensitive - Known in Forests (BD, BRT) Plant Threat Score: Low CCVI: Extremely Vulnerable					
V - Noccaea parviflora (Small-flowered Pennycress) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G3 State: S3 Plant Threat Score: Unknown CCVI: Highly Vulnerable					
V - Primula alcalina (Alkali Primrose) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G2 State: S2 USFS: Sensitive - Known in Forests (BD) BLM: SENSITIVE Plant Threat Score: Very High CCVI: Extremely Vulnerable					
V - Ranunculus pedatifidus (Northern Buttercup) SOC				Not Assessed	Y
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFS: Species of Conservation Concern in Forests (HLC) Plant Threat Score: Unknown					
B - Black Rosy-Finch (Leucosticte atrata) SOC				Not Assessed	S M
View in Field Guide View Range Maps Species of Concern - Native Species Global: G4 State: S2 USFWS: MBTA; BCC10 FWP SWAP: SGCN2, SGIN PIF: 2					
B - Gray-crowned Rosy-Finch (Leucosticte tephrocotis) SOC				Not Assessed	WM
View in Field Guide View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFWS: MBTA FWP SWAP: SGCN2, SGIN					
B - Sprague's Pipit (Anthus spragueii) SOC				Not Assessed	S M
View in Field Guide View Range Maps Species of Concern - Native Species Global: G3G4 State: S3B USFWS: MBTA; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1					
M - Black-tailed Jackrabbit (Lepus californicus) PSOC				Not Assessed	Y
View in Field Guide View Range Maps Potential Species of Concern - Native Species Global: G5 State: SU FWP SWAP: SGIN					
M - Bison (Bos bison) SOC				Not Assessed	H
View in Field Guide View Range Maps Species of Concern - Native Species Global: G4 State: S2 FWP SWAP: SGCN2					

R - Greater Short-horned Lizard (<i>Phrynosoma hernandesi</i>)		SOC		Not Assessed: Y	
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Species of Concern - Native Species		Global: G5	State: S3	BLM: SENSITIVE	FWP SWAP: SGCN3, SGIN
V - Agastache cusickii (<i>Cusick's Horsemint</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G3G4	State: S2S3	USFS: Sensitive - Known in Forests (BD)	BLM: SENSITIVE Plant Threat Score: High - Medium
CCVI: Moderately Vulnerable					
V - Erigeron linearis (<i>Linear-leaf Fleabane</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S2	Plant Threat Score: Low	CCVI: Less Vulnerable
V - Erigeron parryi (<i>Parry's Fleabane</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G2G3	State: S2S3	Plant Threat Score: No Known Threats	CCVI: Moderately Vulnerable
V - Eriogonum caespitosum (<i>Mat Buckwheat</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S2S3	Plant Threat Score: No Known Threats	
V - Polygonum austinae (<i>Austin's Knotweed</i>)		PSOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G5T4	State: S3S4	USFS: Sensitive - Known in Forests (BD)	Species of Conservation Concern in Forests (HLC)
B - Mountain Plover (<i>Charadrius montanus</i>)		SOC		Not Assessed: S M	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G3	State: S2B	USFWS: MBTA; BCC10; BCC11; BCC17	BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1
B - Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G3	State: S3	USFWS: MBTA; BCC10; BCC17	FWP SWAP: SGCN3
I - Polygonia progne (<i>Gray Comma</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S2		
V - Senecio eremophilus (<i>Desert Groundsel</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S1S2	Plant Threat Score: No Known Threats	
B - Tennessee Warbler (<i>Leiothlypis peregrina</i>)		PSOC		Not Assessed: M	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G5	State: S3S4B	USFWS: MBTA	
I - Argia alberta (<i>Paiute Dancer</i>)		PSOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G4	State: S2S3		
V - Castilleja exilis (<i>Annual Indian Paintbrush</i>)		SOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5T5	State: S2	USFS: Species of Conservation Concern in Forests (CG)	Plant Threat Score: Low
CCVI: Extremely Vulnerable					
B - Black-and-white Warbler (<i>Mniotilta varia</i>)		PSOC		Not Assessed: M	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G5	State: S4B	USFWS: MBTA	
B - Common Tern (<i>Sterna hirundo</i>)		SOC		Not Assessed: M	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S3B	USFWS: MBTA	BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2
I - Somatochlora minor (<i>Ocellated Emerald</i>)		PSOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G5	State: S2S4		
B - Black-necked Stilt (<i>Himantopus mexicanus</i>)		SOC		Not Assessed: S M	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S3B	USFWS: MBTA	FWP SWAP: SGCN3 PIF: 3
I - Libellula saturata (<i>Flame Skimmer</i>)		PSOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G5	State: S2S4		
I - Argia emma (<i>Emma's Dancer</i>)		PSOC		Not Assessed: Y	
View in Field Guide		View Range Maps			
Potential Species of Concern - Native Species		Global: G5	State: S3S5		
B - Forster's Tern (<i>Sterna forsteri</i>)		SOC		Not Assessed: S M	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S3B	USFWS: MBTA	BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2
B - Caspian Tern (<i>Hydroprogne caspia</i>)		SOC		Not Assessed: M	
View in Field Guide		View Range Maps			
Species of Concern - Native Species		Global: G5	State: S2B	USFWS: MBTA	BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 2

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I - Enallagma civile (Familiar Bluet) PSOC		Not Assessed		Y	
Potential Species of Concern - Native Species		Global: G5	State: S2S4		
I - Rhionaeschna multicolor (Blue-eyed Darter) PSOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Potential Species of Concern - Native Species		Global: G5	State: S2S4		
B - Clark's Grebe (Aechmophorus clarkii) SOC		Not Assessed		M	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3B	USFWS: MBTA; BCC10; BCC11 FWP SWAP: SGCN3 PIF: 3	
B - Common Loon (Gavia immer) SOC		Not Assessed		M	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3B	USFWS: MBTA USFS: Sensitive - Known in Forests (KOOT, LOLO) FWP SWAP: SGCN3 PIF: 1	
B - Horned Grebe (Podiceps auritus) SOC		Not Assessed		M	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3B	USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2	
I - Somatochlora hudsonica (Hudsonian Emerald) PSOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Potential Species of Concern - Native Species		Global: G5	State: S2S4		
B - Burrowing Owl (Athene cunicularia) SOC		Not Assessed		S M	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G4	State: S3B	USFWS: MBTA; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1	
I - Enallagma clausum (Alkali Bluet) PSOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Potential Species of Concern - Native Species		Global: G5	State: S2S4		
I - Rhionaeschna californica (California Darter) PSOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Potential Species of Concern - Native Species		Global: G5	State: S3S5		
M - Canada Lynx (Lynx canadensis) SOC		7	Not Assessed		Y
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	USFWS: LT; CH BLM: THREATENED FWP SWAP: SGCN3	
B - Black-backed Woodpecker (Picoides arcticus) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	USFWS: MBTA USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1	
B - Brown Creeper (Certhia americana) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	USFWS: MBTA FWP SWAP: SGCN3 PIF: 1	
B - Cassin's Finch (Haemorhous cassinii) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	USFWS: MBTA; BCC10 FWP SWAP: SGCN3 PIF: 3	
B - Greater Sage-Grouse (Centrocercus urophasianus) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G3G4	State: S2	USFS: Sensitive - Known in Forests (BD) Species of Conservation Concern in Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1	
B - Northern Goshawk (Accipiter gentilis) SOC		Not Assessed		Y W M	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	USFWS: MBTA FWP SWAP: SGCN3 PIF: 2	
B - Pacific Wren (Troglodytes pacificus) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	USFWS: MBTA FWP SWAP: SGCN3 PIF: 2	
V - Balsamorhiza hookeri (Hooker's Balsamroot) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S3	Plant Threat Score: No Known Threats CCVI: Highly Vulnerable	
V - Botrychium ascendens (Upward-lobed Moonwort) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G4	State: S3	USFS: Sensitive - Known in Forests (KOOT) CCVI: Less Vulnerable	
V - Botrychium crenulatum (Wavy Moonwort) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G4	State: S3	USFS: Sensitive - Known in Forests (BD, KOOT, LOLO) Species of Conservation Concern in Forests (HLC) CCVI: Less Vulnerable	
V - Botrychium paradoxum (Peculiar Moonwort) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G3G4	State: S3	USFS: Sensitive - Known in Forests (BD, KOOT) Sensitive - Suspected in Forests (LOLO) Species of Conservation Concern in Forests (CG, FLAT, HLC) BLM: SENSITIVE CCVI: Moderately Vulnerable	
V - Botrychium simplex (Least Moonwort) SOC		Not Assessed		Y	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5	State: S2	CCVI: Less Vulnerable	

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<div><div></div><div>V - Brickellia oblongifolia (Mojave Brickellbush)</div><div>SOC</div></div>	Not Assessed	<div>Y</div>
<div><div>Species of Concern - Native Species</div><div>Global: G5 State: S1S2 Plant Threat Score: High - Low</div></div>		
<div><div></div><div>V - Sphaeralcea munroana (White-stemmed globemallow)</div><div>PSOC</div></div>	Not Assessed	<div>Y</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Potential Species of Concern - Native Species</div><div>Global: G4 State: S3S4</div></div>		
<div><div></div><div>B - Brewer's Sparrow (Spizella breweri)</div><div>SOC</div></div>	Not Assessed	<div>S</div> <div>M</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2</div></div>		
<div><div></div><div>B - Flammulated Owl (Psiloscoops flammeolus)</div><div>SOC</div></div>	Not Assessed	<div>S</div> <div>M</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G4 State: S3B USFWS: MBTA; BCC10 USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) Species of Conservation Concern in Forests (FLAT, HLC) BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1</div></div>		
<div><div></div><div>B - Sagebrush Sparrow (Artemisiospiza nevadensis)</div><div>SOC</div></div>	Not Assessed	<div>S</div> <div>M</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3</div></div>		
<div><div></div><div>B - Varied Thrush (Ixoreus naevius)</div><div>SOC</div></div>	Not Assessed	<div>S</div> <div>M</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3</div></div>		
<div><div></div><div>B - Northern Hawk Owl (Surnia ulula)</div><div>SOC</div></div>	Not Assessed	<div>W</div> <div>M</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3, SGIN</div></div>		
<div><div></div><div>V - Cryptantha humilis (Round-headed Cryptantha)</div><div>SOC</div></div>	Not Assessed	<div>H</div>
<div><div><div>View in Field Guide</div><div>View Range Maps</div></div><div>Species of Concern - Native Species</div><div>Global: G4? State: SH Plant Threat Score: No Known Threats</div></div>		

Structured Surveys

Summarized by: **Madison County Twin Bridges** (*Custom Area of Interest*)

The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

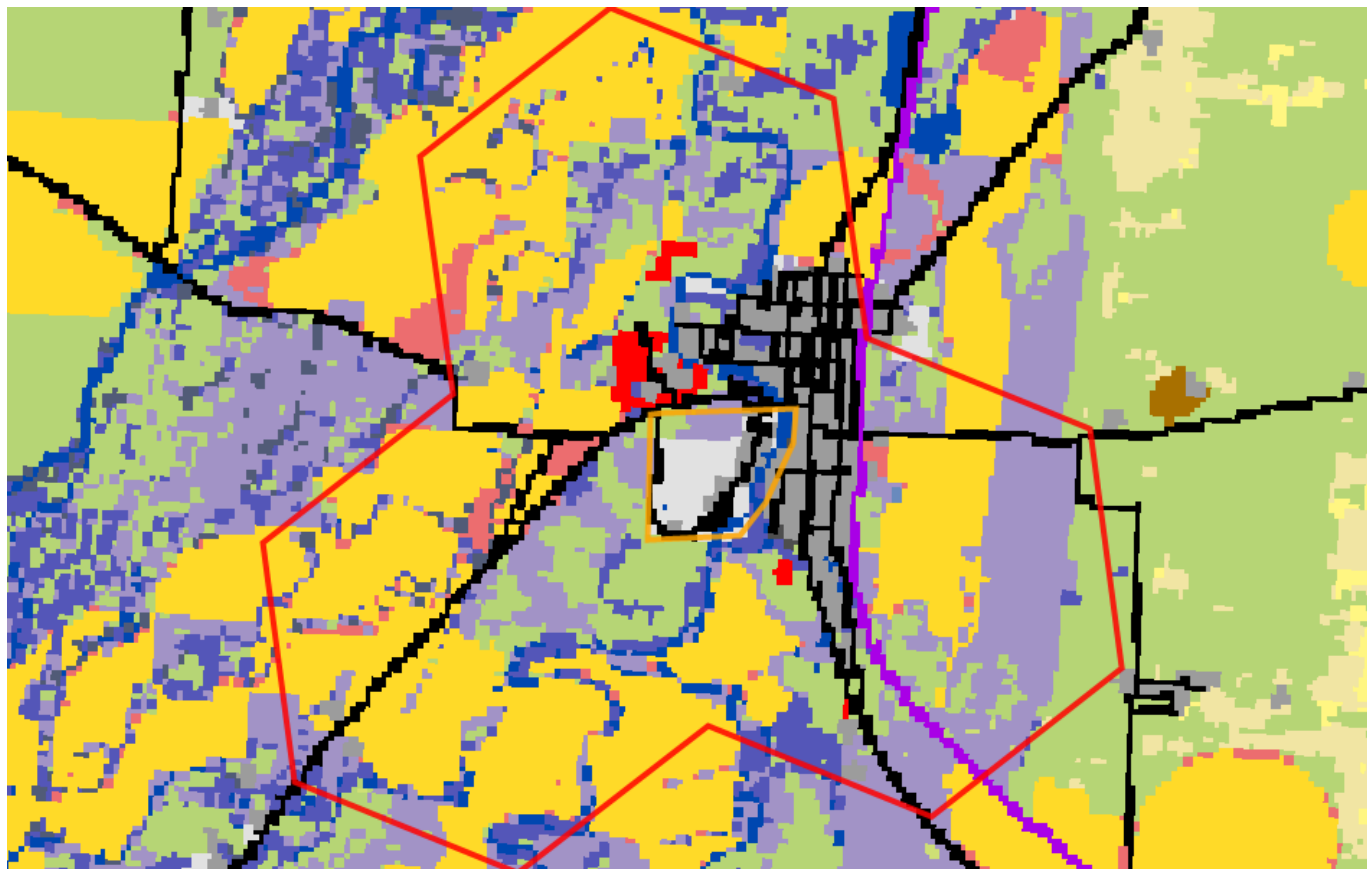
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

A-Nocturnal Calling Amphibian (<i>Nocturnal Breeding Amphibian Calling Survey</i>)	Survey Count: 3	Obs Count:	Recent Survey: 2011
B-Bald Eagle Nest (<i>Bald Eagle Nest Survey</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 1996
E-Eastern Heath Snail (<i>Eastern Heath Snail Survey</i>)	Survey Count: 1	Obs Count:	Recent Survey: 2012
E-Eurasian Water-milfoil Rake (<i>Rake tows/pulls for Eurasian Water-milfoil</i>)	Survey Count: 2	Obs Count: 12	Recent Survey: 2021
E-Invasive Mussel Plankton Tow (<i>Plankton tows for veligers of Invasive Mussels</i>)	Survey Count: 1	Obs Count:	Recent Survey: 2021
E-Kicknet (<i>Kicknet Collection Survey for Invasive Mussels and Snails</i>)	Survey Count: 2	Obs Count: 3	Recent Survey: 2021
E-Noxious Weed, Road-based (<i>Noxious Weed Road-based Visual Surveys</i>)	Survey Count: 6	Obs Count: 10	Recent Survey: 2004
E-Visual Aquatic Invasives (<i>Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater</i>)	Survey Count: 48	Obs Count: 66	Recent Survey: 2020
F-Fish Electrofishing (<i>Fish Electrofishing Surveys</i>)	Survey Count: 6	Obs Count: 32	Recent Survey: 2013
M-Bat Roost (Active Season) (<i>Bat Roost (Active Season) Survey</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 2019
P-Algal scraping (<i>Algal Scraping</i>)	Survey Count: 3	Obs Count: 129	Recent Survey: 2003



Land Cover

Summarized by: **Madison County Twin Bridges** (Custom Area of Interest)



Human Land Use Agriculture

Cultivated Crops

36% (691 Acres)

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.




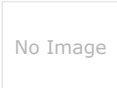

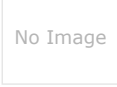











Wetland and Riparian Systems Wet meadow

Alpine-Montane Wet Meadow

20% (378 Acres)

These moderate-to-high-elevation systems are found throughout the Rocky Mountains, dominated by herbaceous species found on wetter sites with very low-velocity surface and subsurface flows. Occurrences range in elevation from montane to alpine at 1,000 to 3,353 meters (3,280-11,000 feet). This system typically occurs in cold, moist basins, seeps and alluvial terraces of headwater streams or as a narrow strip adjacent to alpine lakes (Hansen et al., 1996). Wet meadows are typically found on flat areas or gentle slopes, but may also occur on sub-irrigated sites with slopes up to 10 percent. In alpine regions, sites are typically small depressions located below late-melting snow patches or on snowbeds. The growing season may only last for one to two months. Soils of this system may be mineral or organic. In either case, soils show typical hydric soil characteristics, including high organic content and/or low chroma and redoximorphic features. This system often occurs as a mosaic of several plant associations, often dominated by graminoids such as tufted hairgrass (*Deschampsia caespitosa*), and a diversity of montane or alpine sedges such as small-head sedge (*Carex illota*), small-winged sedge (*Carex microptera*), black alpine sedge (*Carex nigricans*), Holmâ€™s Rocky Mountain sedge (*Carex scopulorum*) shortstalk sedge (*Carex podocarpa*) and Paysonâ€™s sedge (*Carex paysonis*). Drummondâ€™s rush (*Juncus drummondii*), Mertenâ€™s rush (*Juncus mertensianus*), and high elevation bluegrasses (*Poa arctica* and *Poa alpina*) are often present. Forbs such as arrow-leaf groundsel (*Senecio triangularis*), slender-sepal marsh marigold (*Caltha leptosepala*), and spreading globeflower (*Trollius laxus*) often form high cover in higher elevation meadows. Wet meadows are associated with snowmelt and are usually not subjected to high disturbance events such as flooding.

 16% (300 Acres)	<u>Rocky Mountain Lower Montane, Foothill, and Valley Grassland</u> <p>This grassland system of the northern Rocky Mountains is found at lower montane to foothill elevations in mountains and valleys throughout Montana. These grasslands are floristically similar to Big Sagebrush Steppe but are defined by shorter summers, colder winters, and young soils derived from recent glacial and alluvial material. They are found at elevations from 548 - 1,650 meters (1,800-5,413 feet). In the lower montane zone, they range from small meadows to large open parks surrounded by conifers; below the lower treeline, they occur as extensive foothill and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. Microphytic crust may be present in high-quality occurrences. This system is typified by cool-season perennial bunch grasses and forbs (>25%) cover, with a sparse shrub cover (<10%). Rough fescue (<i>Festuca campestris</i>) is dominant in the northwestern portion of the state and Idaho fescue (<i>Festuca idahoensis</i>) is dominant or co-dominant throughout the range of the system. Bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>) occurs as a co-dominant throughout the range as well, especially on xeric sites. Western wheatgrass (<i>Pascopyrum smithii</i>) is consistently present, often with appreciable coverage (>10%) in lower elevation occurrences in western Montana and virtually always present, with relatively high coverages (>25%), on the edge of the Northwestern Great Plains region. Species diversity ranges from a high of more than 50 per 400 square meter plot on mesic sites to 15 (or fewer) on xeric and disturbed sites. Most occurrences have at least 25 vascular species present. Farmland conversion, noxious species invasion, fire suppression, heavy grazing and oil and gas development are major threats to this system.</p>
 6% (119 Acres)	<u>Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland</u> <p>This ecological system is found throughout the Rocky Mountain and Colorado Plateau regions. In Montana, it ranges from approximately 945 to 2,042 meters (3,100 to 6,700 feet), characteristically occurring as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. It is dependent on a natural hydrologic regime, especially annual to episodic flooding. Occurrences are found within the flood zone of rivers, on islands, sand or cobble bars, and on immediate streambanks. It can form large, wide occurrences on mid-channel islands in larger rivers or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains swales and irrigation ditches. In some locations, occurrences extend into moderately high intermountain basins where the adjacent vegetation is sage steppe. Dominant trees may include boxelder maple (<i>Acer negundo</i>), narrowleaf cottonwood (<i>Populus angustifolia</i>), Plains cottonwood (<i>Populus deltoides</i>), Douglas-fir (<i>Pseudotsuga menziesii</i>), peachleaf willow (<i>Salix amygdaloides</i>), or Rocky Mountain juniper (<i>Juniperus scopulorum</i>). Dominant shrubs include Rocky Mountain maple (<i>Acer glabrum</i>), thinleaf alder (<i>Alnus incana</i>), river birch (<i>Betula occidentalis</i>), redbud (<i>Cornus sericea</i>), hawthorne (<i>Crataegus</i> spp.), chokecherry (<i>Prunus virginiana</i>), skunkbush sumac (<i>Rhus trilobata</i>), Drummond's willow (<i>Salix drummondiana</i>), sandbar willow (<i>Salix exigua</i>), Pacific willow (<i>Salix lucida</i>), rose (<i>Rosa</i> species), silver buffaloberry (<i>Shepherdia argentea</i>), or snowberry (<i>Symphoricarpos</i> species). Exotic trees of Russian olive (<i>Elaeagnus angustifolia</i>) and saltcedar (<i>Tamarix</i> species) may invade some stands in southeastern and south-central Montana.</p>
 5% (101 Acres)	<u>Low Intensity Residential</u> <p>Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-50% of total cover. These areas most commonly include single-family housing units in rural and suburban areas. Paved roadways may be classified into this category.</p>
 5% (98 Acres)	<u>Other Roads</u> <p>County, city and or rural roads generally open to motor vehicles.</p>
 3% (55 Acres)	<u>Open Water</u> <p>All areas of open water, generally with less than 25% cover of vegetation or soil</p>
 3% (49 Acres)	<u>Major Roads</u> <p>U.S. and State Highways that are not part of the National Highway System (NHS) Interstate network. This category includes entrance and exit ramps to NHS Interstate highways.</p>
 2% (41 Acres)	<u>Introduced Upland Vegetation - Annual and Biennial Forbland</u> <p>Land cover is significantly altered/disturbed by introduced annual and biennial forbs. Natural vegetation types are no longer recognizable. Typical species that dominate these areas are knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover.</p>
 2% (31 Acres)	<u>Developed, Open Space</u> <p>Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Impervious surfaces account for less than 20% of total cover. This category often includes highway and railway rights of way and graveled rural roads.</p>
Additional Limited Land Cover	
1% (21 Acres)	 <u>Commercial / Industrial</u>
1% (18 Acres)	 <u>Railroad</u>
1% (15 Acres)	 <u>Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland</u>
<1% (2 Acres)	 <u>High Intensity Residential</u>
<1% (1 Acres)	 <u>Rocky Mountain Subalpine-Montane Mesic Meadow</u>
<1% (0 Acres)	 <u>Emergent Marsh</u>
<1% (0 Acres)	 <u>Montane Sagebrush Steppe</u>



Wetland and Riparian

Summarized by: **Madison County Twin Bridges** (Custom Area of Interest)



Wetland and Riparian Mapping

[Explain](#)

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	8 Acres
(no modifier)	6 Acres PABF
h - Diked/Impounded	1 Acres PABFh
x - Excavated	1 Acres PABFx

P - Palustrine, AB - Aquatic Bed

Wetlands with vegetation growing on or below the water surface for most of the growing season.

EM - Emergent

A - Temporarily Flooded	34 Acres
(no modifier)	34 Acres PEMA
C - Seasonally Flooded	149 Acres
(no modifier)	149 Acres PEMC
F - Semipermanently Flooded	1 Acres
(no modifier)	1 Acres PEMF

P - Palustrine, EM - Emergent

Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

SS - Scrub-Shrub

A - Temporarily Flooded	3 Acres
(no modifier)	3 Acres PSSA
C - Seasonally Flooded	16 Acres
(no modifier)	16 Acres PSSC

P - Palustrine, SS - Scrub-Shrub

Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

H - Permanently Flooded	42 Acres
(no modifier)	42 Acres R2UBH

R - Riverine (Rivers), 2 - Lower Perennial, UB - Unconsolidated Bottom

Stream channels where the substrate is at least 25% mud, silt or other fine particles.

4 - Intermittent

SB - Stream Bed

C - Seasonally Flooded	2 Acres
x - Excavated	2 Acres R4SBCx

R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed

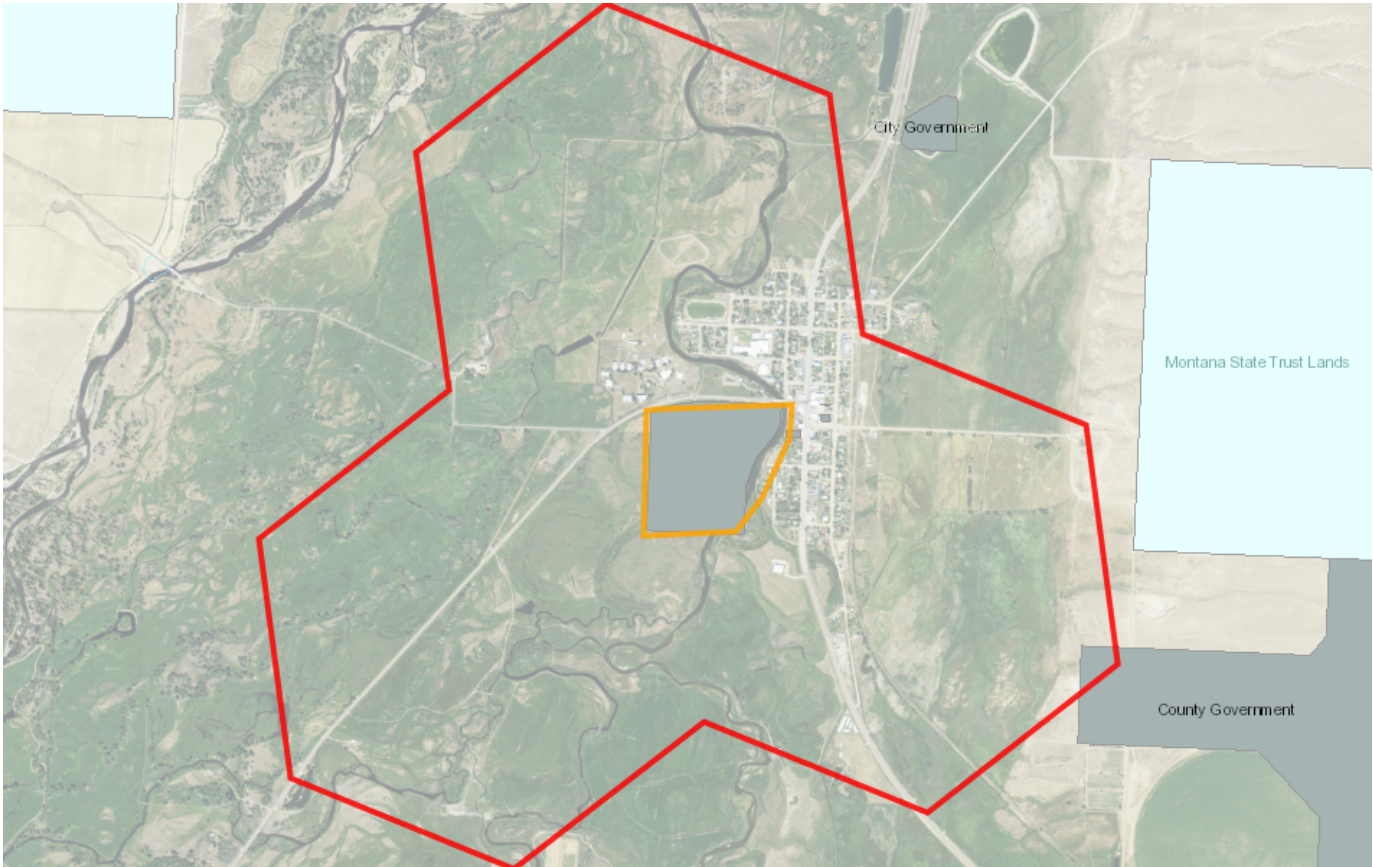
Active channel that contains periodic water flow.

<div><div></div><div>SS - Scrub-Shrub</div><div>(no modifier)</div></div>	<div>140 Acres</div> <div>Rp1SS</div>	<div>Rp - Riparian, 1 - Lotic, SS - Scrub-Shrub</div> <div><i>This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.</i></div>
<div><div></div><div>FO - Forested</div><div>(no modifier)</div></div>	<div>30 Acres</div> <div>Rp1FO</div>	<div>Rp - Riparian, 1 - Lotic, FO - Forested</div> <div><i>This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.</i></div>



Land Management

Summarized by: **Madison County Twin Bridges** *(Custom Area of Interest)*



Land Management Summary				Explain
	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	65 Acres (3%)			
Local	65 Acres (3%)			
Local Government	65 Acres (3%)			
Local Government Owned	65 Acres (3%)			
Private Lands or Unknown Ownership	1,854 Acres (97%)			



**Montana
Natural Heritage
Program**

A program of the **Montana State Library's
Natural Resource Information System**



Latitude	Longitude
45.52617	-112.31532
45.55951	-112.35923

Biological Reports

Summarized by: **Madison County Twin Bridges** (*Custom Area of Interest*)

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

No Biological Reports were found in the selected area

Invasive and Pest Species

Summarized by: **Madison County Twin Bridges** (*Custom Area of Interest*)

		# Obs	Predicted Model	Range
Aquatic Invasive Species				
V - Iris pseudacorus (Yellowflag Iris) N2A/AIS			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predicted Models: <div><div></div> 67% Optimal (inductive), <div><div></div> 33% Moderate (inductive)</div></div>				
V - Potamogeton crispus (Curly-leaf Pondweed) N2B/AIS		10	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models: <div><div></div> 33% Moderate (inductive), <div><div></div> 67% Low (inductive)</div></div>				
V - Myriophyllum spicatum (Eurasian Water-milfoil) N2A/AIS			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predicted Models: <div><div></div> 100% Low (inductive)</div>				
V - Nymphaea odorata (American Water-lily) AIS			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models: <div><div></div> 100% Suitable (introduced range) (deductive)</div>				
F - Common Carp (Cyprinus carpio) AIS			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models: <div><div></div> 100% Suitable (introduced range) (deductive)</div>				
I - Faxonius virilis (Virile Crayfish) AIS		1	Not Assessed	
View in Field Guide Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) Global: G5 State: S5				
Noxious Weeds: Priority 1A				
V - Centaurea solstitialis (Yellow Starthistle) N1A			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predicted Models: <div><div></div> 100% Optimal (inductive)</div>				
V - Isatis tinctoria (Dyer's Woad) N1A			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predicted Models: <div><div></div> 67% Optimal (inductive), <div><div></div> 33% Moderate (inductive)</div></div>				
V - Phragmites australis ssp. australis (European Common Reed) N1A			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: G5T5 State: SNA Predicted Models: <div><div></div> 100% Low (inductive)</div>				
Noxious Weeds: Priority 1B				
V - Lythrum salicaria (Purple Loosestrife) N1B			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: G5 State: SNA Predicted Models: <div><div></div> 100% Optimal (inductive)</div>				
V - Polygonum x bohemicum (Bohemian Knotweed) N1B			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNA State: SNA Predicted Models: <div><div></div> 67% Optimal (inductive)</div>				
V - Polygonum cuspidatum (Japanese Knotweed) N1B			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNRTNR State: SNA Predicted Models: <div><div></div> 67% Moderate (inductive), <div><div></div> 33% Low (inductive)</div></div>				
V - Echinium vulgare (Blueweed) N1B			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predicted Models: <div><div></div> 100% Low (inductive)</div>				
V - Cytisus scoparius (Scotch Broom) N1B			<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predicted Models: <div><div></div> 67% Low (inductive)</div>				

Noxious Weeds: Priority 2A

Global: **G5** State: **SNA**

N2B

Global: **GNR** State: **SNA**

N2E

Global: **GNR** State: **SNA**

N2B

Global: **GNR** State: **SNA**

N2B

Global: **GNR** State: **SNA**

N2E

Global: **GNR** State: **SNA**

Regulated Weeds: Priority 3

R3

Global: **GNR** State: **SNA**

R3

Global: **GNR** State: **SNA**

Biocontrol Species

BIOCTRL

Global: **GNR** State: **SNA**

purge Flea Beetle)

Global: **GNR** State: **SNA**

r) **BIOCTRL**

Global: **GNR** State: **SNA**

BIOCNTL

Global: **GNR** State: **SNA**

BIOCTRL

Global: **GNR** State: **SNA**

BIOCTRL

Global: **GNR** State: **SNA**

Introduction to Montana Natural Heritage Program



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.5363 • mtnhp.org

INTRODUCTION

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 80 natural heritage programs throughout the Western Hemisphere.

VISION

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information in order for users to save time and money, speed environmental reviews, and inform decision making.

CORE VALUES

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

CONFIDENTIALITY

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

INFORMATION MANAGED

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions


- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See [Contact Information for MTNHP Staff](#)
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the [Montana Department of Environmental Quality](#), the [Montana Department of Natural Resources and Conservation](#) and the [Index of Environmental Permits for Montana](#) for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's [Information Planning and Consultation \(IPAC\) website](#) regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334																												
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristian Smucker KSmucker@mt.gov (406) 444-5209																												
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling Brian.Wakeling@mt.gov (406) 444-3940																												
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759																												
Fisheries Data	Ryan Alger – MFWP Data Analyst ryan.alger@mt.gov (406) 444-5365																												
Wildlife and Fisheries Scientific Collector’s Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594																												
Fish and Wildlife Recommendations for Subdivision Development	Charlie Sperry CSperry@mt.gov (406) 444-3888 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations																												
Regional Contacts 	<table><tr><td>Region 1</td><td>(Kalispell)</td><td>(406) 752-5501</td><td>fwprg12@mt.gov</td></tr><tr><td>Region 2</td><td>(Missoula)</td><td>(406) 542-5500</td><td>fwprg22@mt.gov</td></tr><tr><td>Region 3</td><td>(Bozeman)</td><td>(406) 577-7900</td><td>fwprg3@mt.gov</td></tr><tr><td>Region 4</td><td>(Great Falls)</td><td>(406) 454-5840</td><td>fwprg42@mt.gov</td></tr><tr><td>Region 5</td><td>(Billings)</td><td>(406) 247-2940</td><td>fwprg52@mt.gov</td></tr><tr><td>Region 6</td><td>(Glasgow)</td><td>(406) 228-3700</td><td>fwprg62@mt.gov</td></tr><tr><td>Region 7</td><td>(Miles City)</td><td>(406) 234-0900</td><td>fwprg72@mt.gov</td></tr></table>	Region 1	(Kalispell)	(406) 752-5501	fwprg12@mt.gov	Region 2	(Missoula)	(406) 542-5500	fwprg22@mt.gov	Region 3	(Bozeman)	(406) 577-7900	fwprg3@mt.gov	Region 4	(Great Falls)	(406) 454-5840	fwprg42@mt.gov	Region 5	(Billings)	(406) 247-2940	fwprg52@mt.gov	Region 6	(Glasgow)	(406) 228-3700	fwprg62@mt.gov	Region 7	(Miles City)	(406) 234-0900	fwprg72@mt.gov
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Region 3	(Bozeman)	(406) 577-7900	fwprg3@mt.gov																										
Region 4	(Great Falls)	(406) 454-5840	fwprg42@mt.gov																										
Region 5	(Billings)	(406) 247-2940	fwprg52@mt.gov																										
Region 6	(Glasgow)	(406) 228-3700	fwprg62@mt.gov																										
Region 7	(Miles City)	(406) 234-0900	fwprg72@mt.gov																										

Montana Department of Agriculture

General Contact Information: <https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices>

Noxious Weeds: <https://agr.mt.gov/Noxious-Weeds>

Montana Department of Environmental Quality

Permitting and Operator Assistance for all Environmental Permits: <https://deq.mt.gov/Permitting>

Montana Department of Natural Resources and Conservation

Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:

<http://dnrc.mt.gov/licenses-and-permits>

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).

<http://dnrc.mt.gov/divisions/cadd/conservation-districts/the-310-law>

Flood and Fire Resources: <http://dnrc.mt.gov/flood-and-fire>

Bureau of Land Management

Montana Field Office Contacts:



Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers

Montana Regulatory Office for federal permits related to construction in water and wetlands

<https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/> (406) 441-1375

United States Environmental Protection Agency

Environmental information, notices, permitting, and contacts <https://www.epa.gov/mt>

Gateway to state resource locators <https://www.envcap.org/srl/index.php>

United States Fish and Wildlife Service

Information Planning and Conservation (IPAC) website: <https://ecos.fws.gov/ipac/>

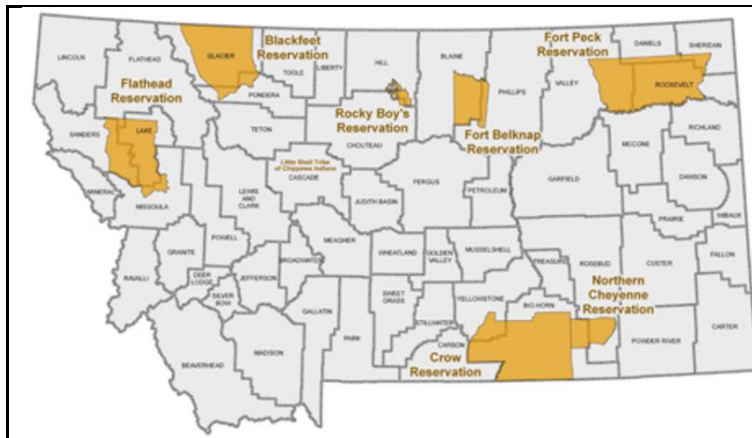
Montana Ecological Services Field Office: <https://www.fws.gov/montanafieldoffice/> (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts

Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Wildlife Ecologist	Cara Staab	cara.staab@usda.gov	(406) 329-3677
Fish Program Leader	Scott Spaulding	scott.spaulding@usda.gov	(406) 329-3287
Fish Ecologist	Cameron Thomas	cameron.thomas@usda.gov	(406) 329-3087
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Acting Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation](#)

[Assiniboine & Sioux Tribes – Fort Peck Reservation](#)

[Blackfoot Tribe - Blackfoot Reservation](#)

[Chippewa Creek Tribe - Rocky Boy's Reservation](#)

[Crow Tribe – Crow Reservation](#)

[Little Shell Chippewa Tribe](#)

[Northern Cheyenne Tribe – Northern Cheyenne Reservation](#)

[Salish & Kootenai Tribes - Flathead Reservation](#)

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System](#)

[British Columbia Conservation Data Centre](#)

[Idaho Natural Heritage Program](#)

[North Dakota Natural Heritage Program](#)

[Saskatchewan Conservation Data Centre](#)

[South Dakota Natural Heritage Program](#)

[Wyoming Natural Diversity Database](#)

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff](#)

[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program](#)

[Montana Invasive Species Council \(MISC\)](#)

[Upper Columbia Conservation Commission \(UC3\)](#)

Noxious Weeds

[Montana Weed Control Association Contacts Webpage](#)

[Montana Biological Weed Control Coordination Project](#)

[Montana Department of Agriculture - Noxious Weeds](#)

[Montana Weed Control Association](#)

[Montana Fish, Wildlife, and Parks - Noxious Weeds](#)

[Montana State University Integrated Pest Management Extension](#)

[Integrated Noxious Weed Management after Wildfires](#)

[Fire Management and Invasive Plants](#)

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of [Species Occurrences](#) and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the [Montana Field Guide](#); and (6) a variety of conservation status ranks and links to species accounts in the [Montana Field Guide](#). Details on each of these information categories are included under relevant section headers below or are defined on our [Species Status Codes](#) page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have animal observations that you would like to contribute, you can submit them to our [Animal Observation Entry Tool](#). You can also submit plant and animal observations via Excel spreadsheets posted at <https://mtnhp.org/observations.asp> or via the [Montana Natural Heritage Observations project in iNaturalist](#)

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the [Species Occurrence](#) (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

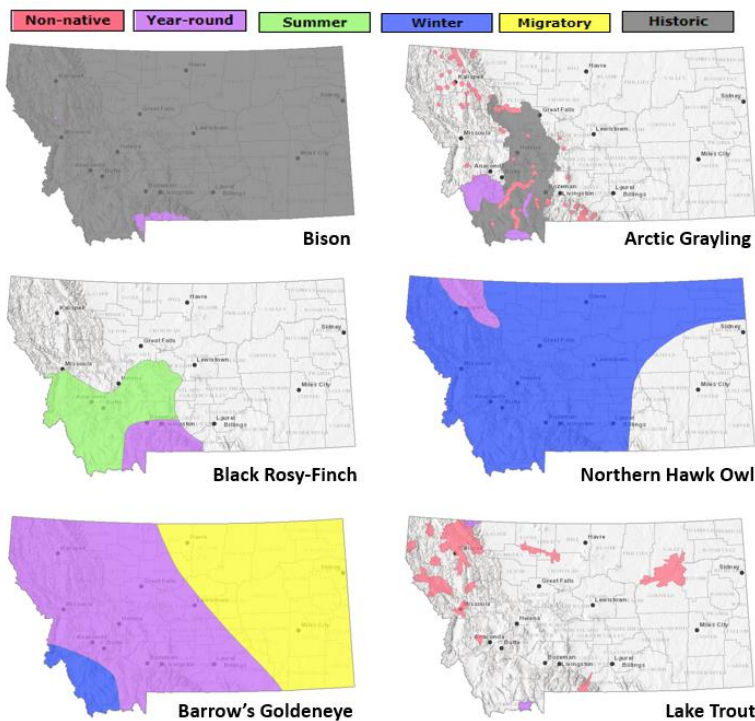
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced



populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).

Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, *Ecological Modeling* 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's [Predicted Suitable Habitat Models](#) webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the [Montana Field Guide](#). We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 [Montana Spatial Data Infrastructure](#) framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download at the Montana State Library's [Geographic Information Clearinghouse](#)

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

- Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.
- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; [described here](#). MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana [Wetland and Riparian Framework](#) web page.

Wetland and Riparian mapping is one of 15 [Montana Spatial Data Infrastructure](#) framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See a detailed overview, with examples, of both [wetland and riparian classification systems and associated codes](#)

Literature Cited

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for “Owned”, “Tribal”, or “Easement” categories represents non-overlapping areas that may be totaled. However, “Other Boundaries” represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library’s Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide [Montana Cadastral Parcel layer](#). Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library’s [GIS Data List](#) at the following links:

[Public Lands](#)

[Conservation Easements](#)

[Private Conservation Lands](#)

[Managed Areas](#)

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our [Species Status Codes](#) page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the [Montana Field Guide](#); and (5) links to species accounts in the [Montana Field Guide](#). Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our [Species Status Codes](#) page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have observations that you would like to contribute, you can submit animal observations using our online data entry system at mtnhp.org/AddObs or via Excel spreadsheets posted at mtnhp.org/observations.asp

Additional Information Resources

[MTNHP Staff Contact Information](#)

[Montana Field Guide](#)

[MTNHP Species of Concern Report - Animals and Plants](#)

[MTNHP Species Status Codes - Explanation](#)

[MTNHP Predicted Suitable Habitat Models](#) (for select Animals and Plants)

[MTNHP Request Information page](#)

[Montana Cadastral](#)

[Montana Code Annotated](#)

[Montana Fisheries Information System](#)

[Montana Fish, Wildlife, and Parks Subdivision Recommendations](#)

[Montana GIS Data Layers](#)

[Montana GIS Data Bundler](#)

[Montana Greater Sage-Grouse Project Submittal Site](#)

[Montana Ground Water Information Center](#)

[Montana Index of Environmental Permits, 21st Edition \(2018\)](#)

[Montana Environmental Policy Act \(MEPA\)](#)

[Montana Environmental Policy Act Analysis Resource List](#)

[Laws, Treaties, Regulations, and Agreements on Animals and Plants](#)

[Montana Spatial Data Infrastructure Layers](#)

[Montana State Historic Preservation Office Review and Compliance](#)

[Montana Stream Permitting: a guide for conservation district supervisors and others](#)

[Montana Water Information System](#)

[Montana Web Map Services](#)

[National Environmental Policy Act](#)

[Penalties for Misuse of Fish and Wildlife Location Data](#) (MCA 87-6-222)

[U.S. Fish and Wildlife Service Information for Planning and Consultation](#) (Section 7 Consultation)

[Web Soil Survey Tool](#)

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Madison County, Montana



Local office

Montana Ecological Services Field Office

☎ (406) 449-5225

📅 (406) 449-5339

585 Shenhard Way Suite 1

2000 Stephanie Way, Suite 1
Helena, MT 59601-6287

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Canada Lynx <i>Lynx canadensis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3652	Threatened
North American Wolverine <i>Gulo gulo luscus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses <i>Spiranthes diluvialis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2159	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Rufous Hummingbird *selasphorus rufus*

Breeds Apr 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

Western Grebe *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/6743>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of

presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

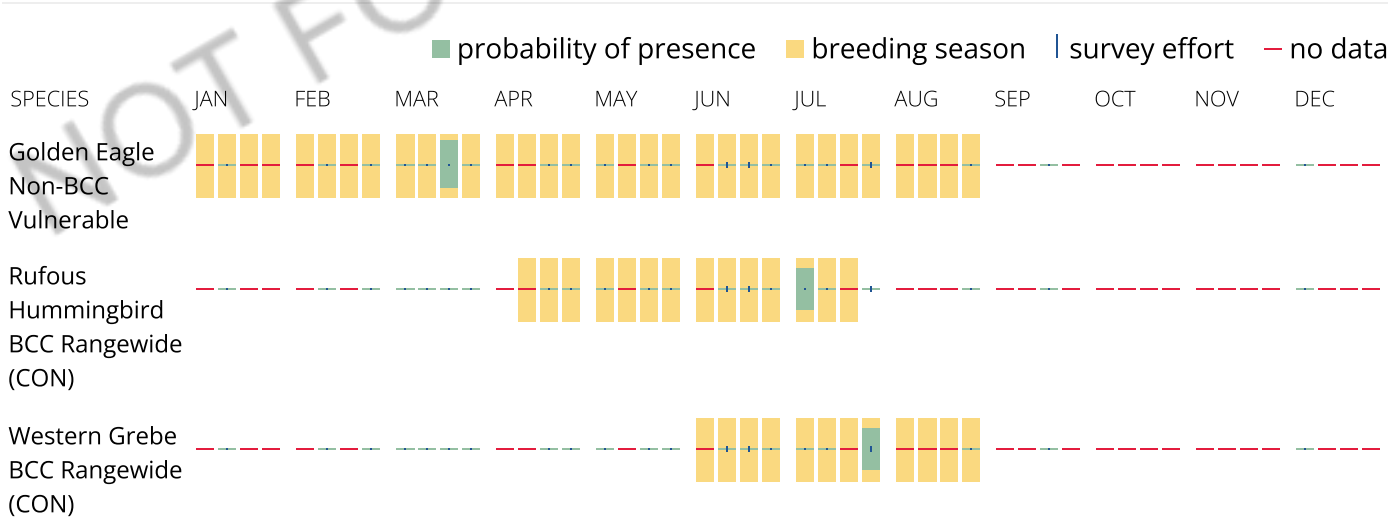
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the

locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1C](#)

[PEM1A](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PSSC](#)

FRESHWATER POND

[PABEx](#)

RIVERINE

[R2UBH](#)

[R5UBH](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

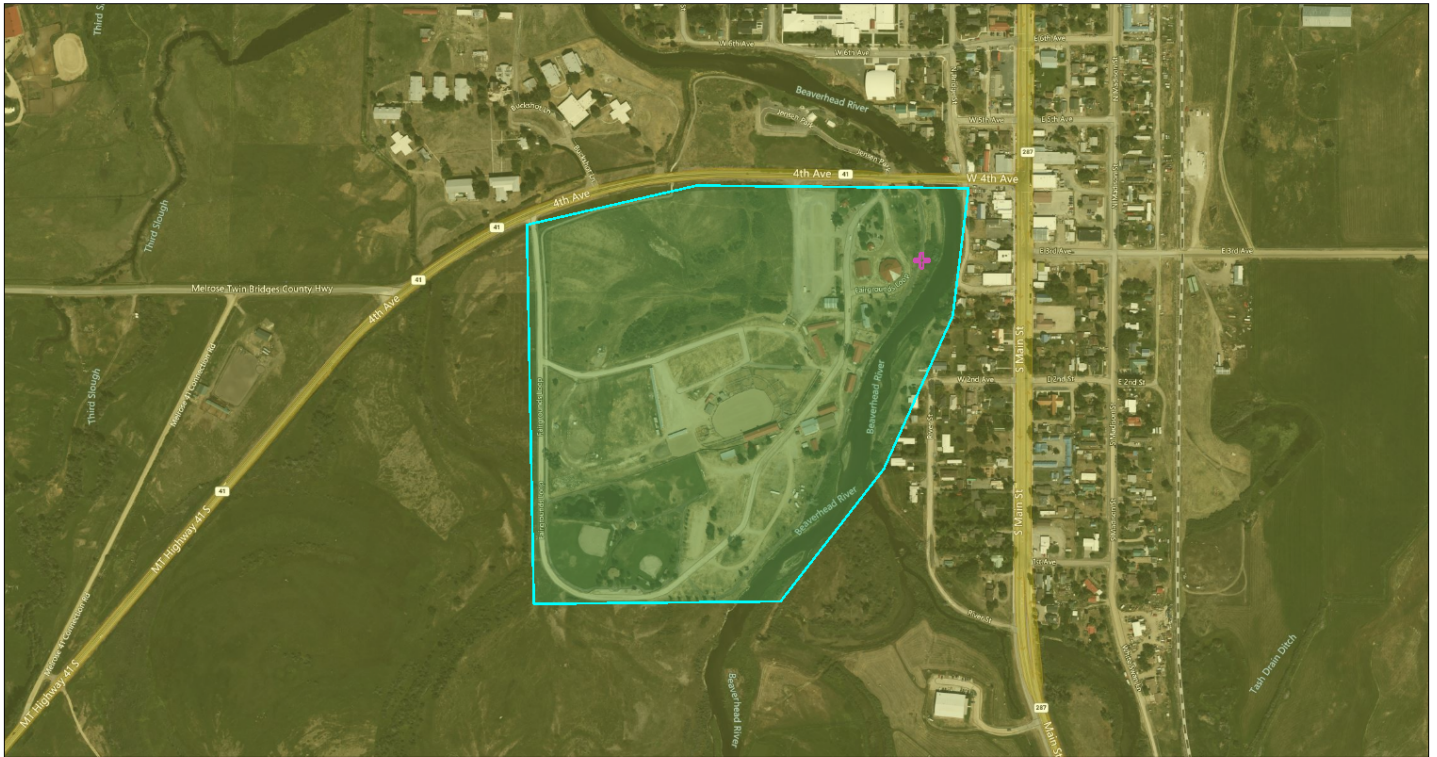
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NEPAssist Report

Madison Co Twin Bridges



May 1, 2023

- Project Buffer
- Madison Co Twin Bridges
- Search Result (point)

1:6,720



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Distribution Airbus DS © 2023 TomTom

Input Coordinates: 45.543722,-112.339397,45.544187,-112.336521,45.544157,-112.331908,45.542640,-112.332176,45.540821,-112.333346,45.539250,-112.335095,45.539220,-112.339279,45.543722,-112.339397

Project Area	0.10 sq mi
Within 1 mile of an Ozone 8-hr (1997 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of an Ozone 8-hr (2008 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a Lead (2008 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a SO2 1-hr (2010 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a PM2.5 24hr (2006 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a PM2.5 Annual (1997 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a PM2.5 Annual (2012 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a PM10 (1987 standard) Non-Attainment/Maintenance Area?	no
Within 1 mile of a Federal Land?	no
Within 1 mile of an impaired stream?	yes
Within 1 mile of an impaired waterbody?	no
Within 1 mile of a waterbody?	no
Within 1 mile of a stream?	yes
Within 1 mile of an NWI wetland?	Available Online
Within 1 mile of a Brownfields site?	no
Within 1 mile of a Superfund site?	no
Within 1 mile of a Toxic Release Inventory (TRI) site?	no
Within 1 mile of a water discharger (NPDES)?	yes
Within 1 mile of a hazardous waste (RCRA) facility?	yes

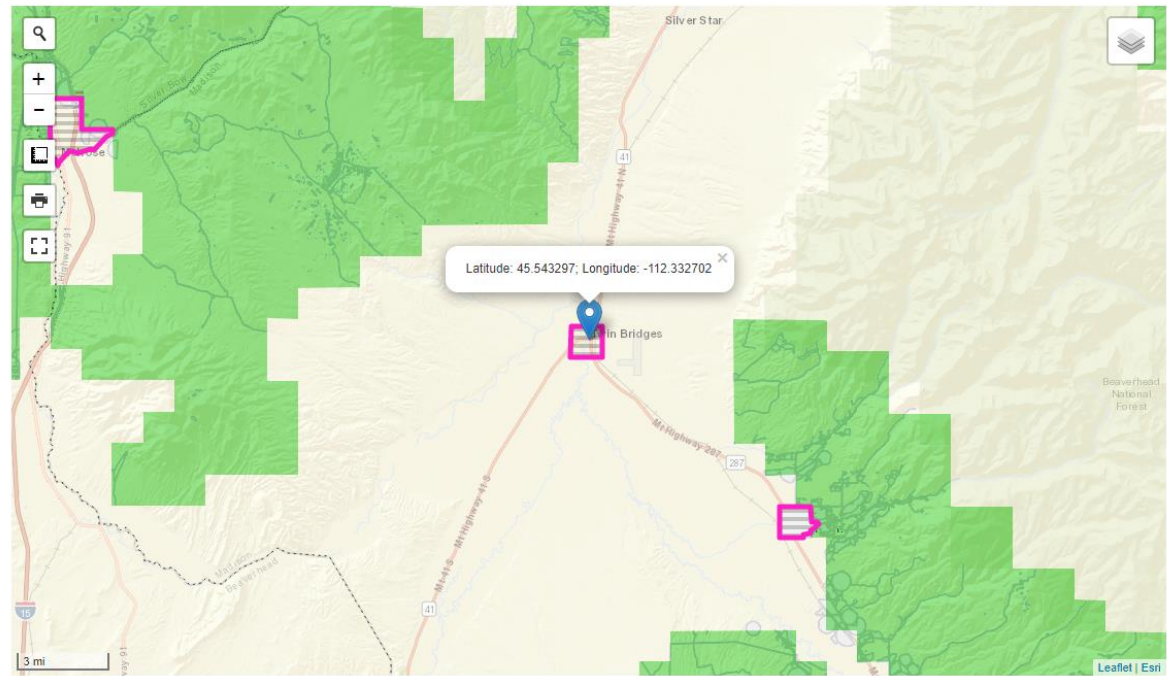
Within 1 mile of an air emission facility?	no
Within 1 mile of a school?	yes
Within 1 mile of an airport?	no
Within 1 mile of a hospital?	no
Within 1 mile of a designated sole source aquifer?	no
Within 1 mile of a historic property on the National Register of Historic Places?	no
Within 1 mile of a Toxic Substances Control Act (TSCA) site?	no
Within 1 mile of a Land Cession Boundary?	yes
Within 1 mile of a tribal area (lower 48 states)?	no
Within 1 mile of the service area of a mitigation or conservation bank?	yes
Within 1 mile of the service area of an In-Lieu-Fee Program?	yes
Within 1 mile of a Public Property Boundary of the Formerly Used Defense Sites?	no
Within 1 mile of a Munitions Response Site?	no
Within 1 mile of an Essential Fish Habitat (EFH)?	no
Within 1 mile of a Habitat Area of Particular Concern (HAPC)?	no
Within 1 mile of an EFH Area Protected from Fishing (EFHA)?	no
Within 1 mile of a Bureau of Land Management Area of Critical Environmental Concern?	no
Within 1 mile of an ESA-designated Critical Habitat Area per U.S. Fish & Wildlife Service?	no
Within 1 mile of an ESA-designated Critical Habitat river, stream or water feature per U.S. Fish & Wildlife Service?	no

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Montana Sage Grouse Habitat Conservation Map

Use this map to view and explore types of sage grouse habitat designated as core (blue), general (green), connectivity (light-blue) habitats or BLM priority areas. To zoom into an area, hold the Shift key and draw a rectangle. Anyone proposing new development activities in sage grouse habitat must submit a [development project application](#) for consultation.

If your project is close to designated sage grouse habitat or BLM Priority area, or if you are unsure your project is within designated sage grouse habitat or BLM Priority area, please submit your project for review as permitting agencies will be checking to see if your project is located within these designated sage grouse habitats. If your permitting agency requires evidence that your project is outside of designated sage grouse habitat, we recommend that you [log in](#) and start a project application and take a screenshot of your project's location.



MONTANA SAGE GROUSE HABITAT CONSERVATION PROGRAM
1539 ELEVENTH AVE. HELENA, MT 59601 | SAGEGROUSE@MT.GOV | 406-444-6340

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- [FISHMT HOME](#)
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BEAVERHEAD RIVER



Slide 1 / 2
Upper Beaverhead River

Although originally formed at the confluence of the Red Rock River and Horse Prairie Creek, the Beaverhead River now begins its 69-mile-long journey at the outlet of Clark Canyon Reservoir, an irrigation storage facility constructed in 1964. It joins the Big Hole River at Twin Bridges, Montana, to form the Jefferson River. The river above Dillon is characterized by a tight channel meandering through densely covered willow banks. From Dillon, it flows through a

[Read More](#)

WATERBODY INFORMATION

CURRENT WATERBODY REPORT

FISH SPECIES

Show 25 entries Search:

Species	Family	Class	Native to MT
Arctic Grayling	Trout	Coldwater	Native
Brook Trout	Trout	Coldwater	Introduced
Brown Trout	Trout	Coldwater	Introduced
Burbot	Codfish	Coldwater	Native
Common Carp	Minnnow	Warmwater	Introduced
Longnose Dace	Minnnow	Warmwater	Native
Longnose Sucker	Sucker	Warmwater	Native
Mottled Sculpin	Sculpin		Native
Mountain Sucker	Sucker		Native
Mountain Whitefish	Trout	Coldwater	Native
Rainbow Trout	Trout	Coldwater	Introduced
Westslope Cutthroat Trout	Trout	Coldwater	Native
White Sucker	Sucker	Warmwater	Native